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RED 2020

9th International Scientific Symposium

REGION
ENTREPRENEURSHIP
DEVELOPMENT

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9th
INTERNATIONAL SCIENTIFIC SYMPOSIUM
REGION, ENTREPRENEURSHIP, DEVELOPMENT

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Content

FOREWORD

The new scientific conference, RED 2020, is a successor of former eight GIH symposiums. During these eight years of GIH symposium development we witnessed both the deepening and the widening of research topics and studies that were submitted. We recognized on one hand, a constantly increasing interest for topics relevant not only for region of Eastern Croatia, but also for other Croatian regions as well as for national and international economy. On the other hand, a number of submissions were addressing issues different than only regional development which was emphasized in GIH symposium. We were able to identify number of papers related to microeconomic and entrepreneurial issues. These trends led us to reframe the profile of the conference i.e. to include new areas of scientific interest and thus enable more participant form both Croatia and abroad to join us.

Having altogether 106 accepted papers for publishing, grouped in three broad areas: region, entrepreneurship and development that are coming from different countries other than Croatia: Bosnia and Herzegovina, Serbia, Slovakia, Poland, Portugal, Greece, India, have proven that our efforts were recognized and accepted.

Unfortunatelly, due to corona crisis, our additional efforts in conference preparations had to be cancelled. Nevertheless, our intention is to continue with positive changes and improvements we introduced in 2019: key note speech, PhD workshop, no-print proceedings, best paper award.. your positive feedback was very valuable and motivational for us. We continued with improvements, beside widening the scope of the conference. So for this yeaar we have planned additional workshop for PhD mentors (which had to be cancelled alongside with the whole event).

However, this year we are trying to recognize and encourage excellence – the best paper award brings not only official recognition and certificate but also a fee waiver for author(s)of the best conference paper for RED 2021. And since we had to give up our official diner and formal announcement of the best conference paper, we declare it here and now: the best RED 2020 paper is: Determinants of Firm Profitability in Eastern Croatia, coauthored by Irena Raguž Krištić, Marko Družić and Marija Logarušić, all form Faculty of Economics in Zagreb, Croatia. This paper is a perfect example of integration of all three key areas of scientific interest that RED covers. Congratulations to the authors and we hope to meet them live at RED 2021, with equally interesting paper.

All the participant, same as last year, will receive an USB stick with conference proceedings, printed Book of abstracts and certificates of participation.

Both Organizing and Programme Committees deeply miss our live meeting, discussions and social events that are disabled due to corona crisis. We promise to make it up to all of you (and us) at RED 2021. See you.

Mirna Leko Šimić
RED 2020
Organizing Committee Chair

TOPICS

1. Region

2. Entrepreneurship

3. Development

RED 2020

1. REGION

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INFLUENCE AND SIGNIFICANCE OF WOMEN FOR DEVELOPMENT OF CROATIAN TOURISM

ABSTRACT

In recent years Croatian tourism has been registering tourist records. However, growth of tourist turnover is not accompanied by the new state of development towards which is being striving for, respectively, improving the position of Croatian tourism on the tourist market. Despite the presence of significant investment cycles in Hospitality, and achievement of a specific movement away from a traditional product "Sun and sea" through development of specific forms of tourism and enriching the offer elements on destination level, still present problems in Croatian tourism are being noticed, in particular in expressed seasonality and lack of necessary professional staff. Tourist market is firm, consolidated, with a wide range of possibilities, and provides space for women. In the structure of employees in Croatian tourism the majority are women (56% in December 2018), which is not the case with the society as whole (48,8% in December 2018). The purpose of this research is to provide a thorough assessment of the position of women in Croatian tourism. In terms of methodology, the authors will use desk-research method, respectively, data from the secondary sources in this research. It is expected that the research results will present the level of disproportion of share of female managers in relation to the total number of employed women in Croatian tourism and prove that women can be its new strength through formation of new projects in tourism. It is expected that findings in this paper will contribute towards better understanding of the importance of enabling formation of equal working conditions for both for women and men, with a goal of stimulating women in taking over managerial positions. By maintaining women on low qualified positions, their diverse talents and capabilities remain an unused resource.

Key words: *human resources, women managers, service quality in tourism, development of Croatian tourism.*

1. Introduction

In the Republic of Croatia (further in text Croatia), as well as in many other countries of the world, tourism stimulates the development of the economy through achieved foreign exchange income and formation of direct and indirect employment. The following data from the Croatian

Bureau of Statistics (2020b) indicate that with 19,6 million of tourist arrivals and 91,2 million of tourist overnights in 2019 a record tourist results were achieved and growth from the previous years was continued, although a bit slower as a consequence of the recovery of competitive markets and limiting capacities (8,0% of the average annual growth of tourist arrivals and 5,7% of tourist overnights in the period 2010-2018.). Incomes from tourism participate with more than 18% in the GDP and generate around 8% of workplaces in 2018. By that Croatia is at the same time placed at the very top of EU-28 countries in which tourism is the generator of economic development, improvement of life standard and poverty reduction. Income from tourism participate with 1,2% in EU-28 GDP, and double digits, besides Croatia also have Cyprus (13,9%) and Malta (12,7%) (Eurostat, 2020a). According to the data of Croatian Bureau of Statistics (authors´ calculation according to 2019), every thirteenth company of non-financial business economy in Croatia belongs to the tourism industry, respectively to the activity of providing accommodation and provision and serving food. In 2017, in these 19.911 enterprises 105.607 people were employed. Enterprises with tourist activities participated with 10,3% in total number of employed persons of non-financial business economy and have achieved 4,6% of turnover and 8% of added value according to the costs of production factors of non-financial economy. On the EU-28 level a slightly lower share of tourism enterprises in the non-financial sector (10%) belongs to the tourism industry, and enterprises with the tourism activities employ around 9,5% of persons of total number of employees of non-financial sector and 21,7% of persons in the service sector in 2016. Growth of tourist activities is supported with the increasing placement of loans in the activities of provision of accommodation services and preparation and serving food, and stimulation of development of a activities with the tourist activity through various programs on regional and national level, as well as on the European Union level (especially grants for rural tourism from the IPARD program).

Researches have shown various ways on which tourism can contribute towards economic growth, reduction of poverty and community development (Creaco, Querini, 2003; Spenceley, Mayer, 2012; Snyman, 2012; Marin, 2015 and others). Šutalo, Ivandić and Marušić (2011) recognize problems of measuring tourism, and along with the identified lacks of measuring tourism and the fact that it is not being presented in the national accounts as a separate sector, they set a model of estimate of total contribution of tourism to the Croatian economy based on Input-Output Model and connected with the satellite account of tourism by a structural matrix of total inter-phase flows and data about the tourism consumption. For the year 2016, Tourism Satellite Balance (TSA) confirmed an exceptionally high significance of tourism for total National Economy through direct and indirect effects by estimating total contribution of tourism to the gross domestic value of Croatia of 16,9%, and participating of gross domestic value of tourism and connected activities in the total gross added value of national economy is 24% (Institute for tourism, 2019). It is also necessary to point out how in the last few years reduction of industrial manufacturing as well as giving guarantees of the state for shipbuilding had a significant influence on increase of importance of tourism for the national economy. Development of Specific forms of tourism in Croatia contributed towards placing into focus research of effects of certain tourism forms on motivation for choosing a tourist destination, increase of out-of-board consumption and enhancing diversity and quality of tourist offer and similar (Škorić, 2008), influence of commercialization and commodification of culture on destination´s authencity (Dujmović, 2019), and greater and greater attention is being given to the tourism research in the context of climate changes (Šverko Grdić and Špoljarić, 2018) and sustainable development as a factor of competitiveness of Croatian tourism (Sunara et al., 2013). By promoting the policy of sustainable tourism workplaces are being formed and local culture and products are being promoted. Less attention is being given to the inequality of distribution of benefits of tourism among genders. Tourism has a key role in achieving set goals of the Agenda for sustainable development until 2030 brought on the 69th Meeting of the

Assembly of United Nations in 2015 which also includes obligations concerned with achieving gender equality and strengthening of women on global, national and regional level (General Assembly, 2015).

Tourist market is firm, consolidated and with a wide variety of possibilities both for formal and informal employment. Jobs in tourism are being characterized by flexibility and possibility of its organization in various places, within the business subject, community and household. Tourism forms a wide spectre of possibilities for women within a complex value chain which is formed in the destination´s economy (UNWTO, 2011). It provides the space suitable for the increase of employment of women, reduction of poverty, increase of independence and strengthening of women within the community. This especially relates to the less developed regions. In tourism women are taking different roles, from managers, innovators, owners of business subjects, household renters, animators, teachers, guides and finally participants in tourism activities. However, despite the high level of employment of women in tourism, only a smaller number of them is employed on managerial or high qualified positions. The majority of women is still employed on lower positions on which they have lower income, although they are frequently more educated in the relation to their colleagues on the same workplaces. World regions are different considering the disproportion in gender equality.

The purpose of this research is to enable a thorough assessment of position of women in Croatian tourism, and their influence and significance for development of Croatian tourism. By following UNWTO researches "Women in tourism" in years 2010 and 2019, the research is focused on the areas covered by the global research: employment, entrepreneurship, education and training, leadership, politics and making decisions and community and civil society. Research results are trying to point out the disproportion of share of women managers in relation to the total number of employed women in Croatian tourism and prove that women can be a new force of Croatian tourism by forming new projects in tourism. For the purpose of this paper the authors will use the data obtained from the secondary sources.

2. Women in tourism of the Republic of Croatia

2.1. The analysis of employment of women in Croatian tourism

Tourism is the generator of employment in Croatia. According to the data from the Croatian Bureau of Statistics (2020a), in 2018 tourism activities[1] employed totally 118.081 of employees, and in a ten-year period (from 2010) their number has been increased for 29.000. Dynamic growth of tourist turnover and significantly greater demand for employees in tourism in relation to the other economic activities have resulted in an increase of share of employees in tourism in total number of employees in the Republic of Croatia with 6,2% in 2010 to 7,8% in year 2019. In part, this also influenced on the reduction of the unemployment rate to 9,2% in 2018 from the record 20,2% in 2013. In total number of employed women in the Republic of Croatia, women in tourism participate with 8,9% with the tendency of increase in the period from 2010 when they participated with 7,4%. In general, women are well represented in the structure of employees in tourism with 54,7% in 2018 with oscillations from 0,1-2,5% in certain years), which is not the case with the society in total (46,8% in 2018) (table 1). By representation of women in tourism Croatia is not lagging for global trends, about 54,0% of tourism employees in tourism on global level are women; the greatest representation of women in tourism is being registered in Africa (69,0%), and the lowest in the Middle East (9,0%) (UNWTO, 2019, 9).

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[1] Activity of provision of accommodation and preparation and serving food and activities of travel agencies, travel organizers (tour operators) and other reservation services and activities related with them (physical and legal entities)

Table 1: Movements and structure of employees in Croatian tourism (physical and legal entities) in the period 2010-2018

	Employees total			Employees in tourism			Share of employees in tourism in total number of employees	
	Total	Women	% of women	Total	Women	% of women	% of total employees	% of employed women
2010	1.432.454	657.312	45,9	88.760	48.449	54,6	6,2	7,4
2011	1.411.238	650.524	46,1	88.702	47.320	53,3	6,3	7,3
2012	1.395.116	646.334	46,3	89.948	48.762	54,2	6,4	7,5
2013	1.364.298	633.999	46,5	90.573	48.592	53,6	6,6	7,7
2014	1.342.149	623.584	46,5	94.605	50.763	53,7	7,0	8,1
2015	1.391.002	654.844	47,1	95.454	53.232	55,8	6,9	8,1
2016	1.443.141	676.250	46,9	105.171	56.786	54,0	7,3	8,4
2017	1.476.832	690.850	46,8	110.529	59.648	54,0	7,5	8,6
2018	1.517.580	710.897	46,8	118.240	63.500	54,7	7,8	8,9

Source: Authors´ adaptation according to the Croatian Bureau of Statistics (2020)

By analysing the movement of the number of women employed in Croatian Tourism (table 1) it is possible to notice their significantly faster growth in relation to the total number of employed women in the period 2010-2018, average annually 3,7% in relation to 0,9%.

Data of the Croatian Bureau of Statistics (2020) and Eurostat (2020) enable us a thorough analysis of share of women in certain tourist activities. Representation of women is higher in the Republic of Croatia in the activity of tourist agencies, travel organizers (tour operators) and other reservation services and activities, 57,1% in 2018 (59,0% in 2015), in relation to the activities of provision of accommodation and preparation and serving food, 53,9% in 2018 (54,3% in 2015), and follows the movements on the EU-28 level (chart 1).

Chart 1: Characteristics of employment in tourist activities, share of employed women in year 2018
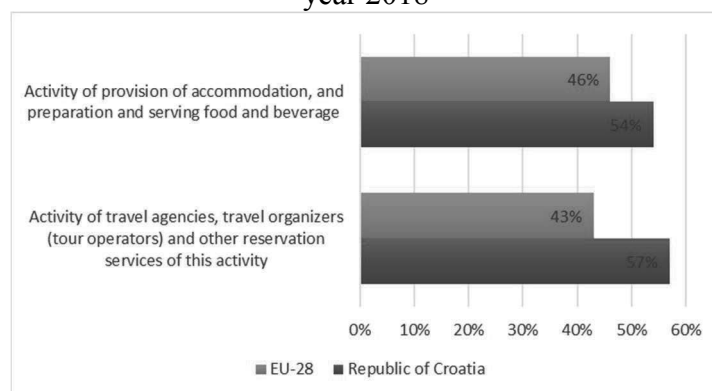
Source: Authors´ adaptation according to the Croatian Bureau of Statistics (2020) and Eurostat (2020)

International Labour Organization (ILO) (2017) points on tourism as a strong movement force for inclusive socio-economic development with a significant potential of stimulating formation of entrepreneurship and workplaces especially for women, young people and more frequently migrants with part-time, seasonal and occasional employments. In the structure of employed women in the activities of provision of accommodation and preparation and serving food and beverages in the legal entities dominate women from 25-34 years of age (27,31% in 2018), which together with the employees from 19-24 years of age make a share of 36,05% which is a significantly higher share than on the level of total economy (27,31%).Tourism enables for your

people to enter the labour market. In the year 2018, 4,1% of the employed women in the activities of provision of accommodation, and preparation and serving food and beverages were younger than 18 (1,1% on the level of total economy). Croatian Tourism and Services Union (2018) points on the problem that women older than 50 face during employment, who after losing employment, find it very hard finding new job, regardless of the years of service, expertise and ability. Similar problem are also facing women of younger life age, who due to the expectations of the employer that they will be absent from work for a considerable period of time due to the possible pregnancy or maternity leave are not an attractive segment of labour market to the employers.

Foreign people make a big part of employees in Croatian tourism. Croatia is faced with a drastic outflow of population and the problem of lack of work force for the needs of tourism. According to the data of Croatian Employment Service (2019), the employers have reported to them 33.199 of free workplaces in 2018 in the activity of provision of accommodation, preparation and serving food (or 13,1% of total free workplaces in the Republic of Croatia), and from the register 31.635 people was employed (or 20% of total number of unemployed people in the register of the Croatian Employment Service). The quota of foreign workers in tourism and catering business in 2018 was 4.400, and in 2019 it was increased to 18.591. The greatest need for the auxiliary workers is in tourism (quota 7.560 of permanent and 7.220 seasonal workers in 2019). Precisely on these jobs mostly women and young people are being employed which are also at the same time poorly paid. By proposing a new Law about foreigners which should come into force during 2020, import of work force into the Republic of Croatia would be liberalized completely, and quotas would be abolished (Government of the Republic of Croatia, 2017; Government of the Republic of Croatia, 2019).

Croatian tourism is characterized by seasonality, and the majority of tourist arrivals and overnights are achieved in the period from June until September (72,0% of tourist arrivals and 84,0% of tourist overnights in 2018). Pearson´s Coefficient of Correlation r = 0,85 points on a positive and strong connection of achieved tourist arrivals and employment of women in tourism of Croatia according to the months of year 2018, respectively, growth of number of tourist arrivals during the year brings to the increase of employed women in tourism. In 2018, Croatian Employment Service (2019) mediated in employing 18.671 workers on seasonal jobs in activities of providing accommodation, preparation and serving food (or 58,7% of total employees on seasonal jobs), and continental parts of Croatia are a significant source of seasonal work force in coastal destinations. Tourism provides opportunities of employment for low-skilled women. However, these are mostly low-paying jobs, such as cleaning maids, chambermaids, laundresses, auxiliary workforce in the kitchen, horticulture, etc., while at the workplaces such as receptionists, cooks or waitresses there are significantly few of them. According to the data from Croatian Employment Service (2019), most of seasonal employees in the Republic of Croatia in 2018 were in the occupations: waiters (2.769 or 8,7 % of total employees on seasonal jobs), cook (2.567 or 8,1 %), assistant chef (1.549 or 4,9 %), cleaning lady (1.473 or 4,6 %), chambermaid (1.381 or 4,2 %) and administrative officer (1.192 or 3,7 %). With the assumption for low-skilled women and on lower paid workplaces, it can be concluded that in 2018 on these workplaces in legal entities there was 6.187 women (20,3% of total number of employed women in relation to 16,4% of total number of employed men (Croatian Employment Service, 2019). In the activities of provision of accommodation, preparation and service of food and beverages, on these workplaces' women participated with 21,7%, and in the activities of travel agencies only with 4,0%.

In the activities of provision of services of accommodation and preparation and serving food and beverages the employers applied a long practice of part-time employment, and contracts of employment were frequently signed year per year. Such practice is being abandoned, and the employers use various available measures with the purpose of keeping the employees for the

next season, i.e. the measure of "Permanent seasonal worker". The employer can use this measure for the number of seasonal workers as how many employees he has employed in his company on indefinite time (Croatian Employment Service, 2019). In year 2010 (on the 31st March), employed women on the indefinite time in the activities of provision of services and preparation and serving food and beverages participated with 81,9%, and their share in the following years had a tendency of reduction, and in 2018 it amounted 64,4%.

UNWTO research (2019) indicates that the gap of salaries in tourism among genders is smaller than in the wider economy on global level (-14,7 % in relation to -16,8 %). However, in Croatia it is greater in relation to the total economy (measured by the share of gross salaries of women in the gross salaries of men in the activities of provision of accommodation and preparation and serving food and beverages) (-8,8 % in relation to -7,1 % u 2017), and it is especially expressed in the activity of accommodation which shows a difference of -10,6 %. Salary gap among genders in the activity of travel agencies is significantly smaller, and it is also smaller in the relation to the salary gap among genders in total economy (-3,2 %). In relation to the EU-28 member countries, Republic of Croatia is showing a greater salary gap in tourism in relation to the total economy together with Austria, Cyprus, Finland, Hungary and Lithuania, while it is smaller in countries like Czech Republic, Denmark, Estonia, France, Ireland, Italy and Latvia (chart 2).

Chart 2: Difference of share of women´s salaries in the salaries of men in the Republic of Croatia (legal entities) and selected European countries in 2018 in percentage
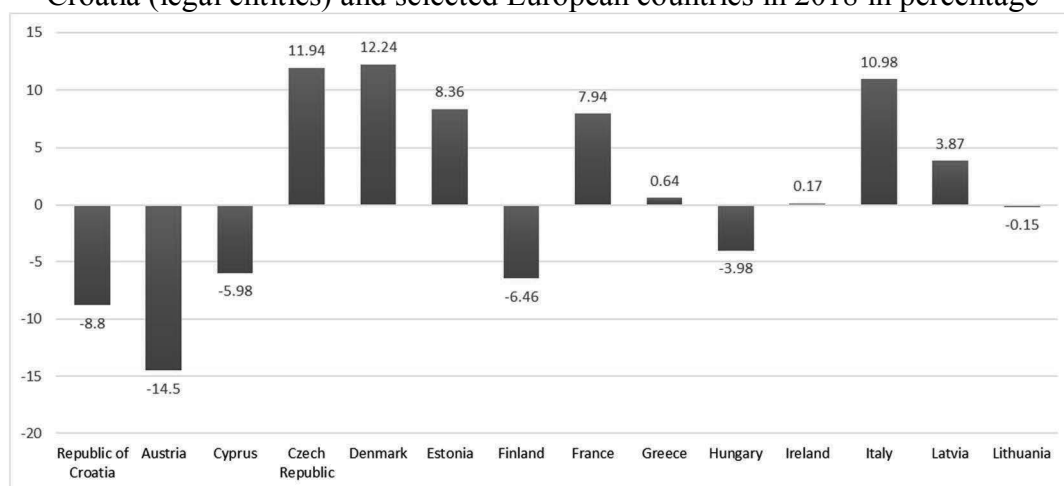
* For Croatia data from 2017

Source: Authors´ adaptation according to the Croatian Bureau of Statistics (2019a) and UNWTO (2019).

By comparing the salary gap among genders in activities of provision of accommodation, preparation and serving food in Croatian counties, the greatest gap can be noticed in the county of Međimurje (-22,1 %), followed by the county of Dubrovnik-Neretva (18,9%), and county of Šibenik-Knin (18,2%), while on the other hand, in the county of Bjelovar-Bilogora, women´s gross salaries are greater than men´s gross salaries for 3,4%. By comparing the differences in the salaries of women and men, and the share of women in the total number of employees in the activities of provision of accommodation and preparation and serving food and beverages according to the counties, a positive, but slight correlation can be noticed (r=0,07), which means that a greater share of women in the total number of employees brings to the greater gap in gross salaries among genders. However, by grouping counties into two groups Continental and Coastal Croatia, it can be determined that in the activities of provision of accommodation, and preparation and serving food and beverages participates approximately 58,77% of women, and the salary gap is -12,71%, while in Coastal Croatia women participate with 54,46% and the

salary gap is -16,44%. By calculating the Pearson correlation coefficient, a complete correlation (r=1) between the mentioned variables was determined. However, although in the case vice versa we come to the same conclusion (complete correlation, r=1), this is incorrect because there are counties in which a large share of women is in the total number of employees, and women´s salaries are not smaller in relation to men.

Croatian Tourism and Services Union (2018) points to the problems of labour of women in tourism. Among them is working in shifts, too big scope of work due to the lack of work standards, and which women, due to the fear of cancelling their contract, accept by working without free days, and avoid sick leave in situations when they are seriously ill, etc. However, the lack of work force, especially qualified one, had also positive effects in the sense of increased care of the employers for improving work conditions. Employers are trying to keep the employees by using various motivators with a goal of increasing their satisfaction in workplaces.

2.2. Women employers in Croatian tourism

UNWTO researches (2019) show how tourism sector provides significantly greater opportunities of entering women into the world of entrepreneurship, in relation to the wider economy. It provides for women the possibility of self-employment and entrepreneurial activities, so in many developed countries participation rates are gradually coming closer to those of men, assisted by the public policies of support to the female entrepreneurship. Opposite to that, in many developing economies gender differences are present, especially in the Arabic countries, countries of North Africa and East Asia, frequently as a consequence of restrictive gender and cultural norms, in which possibilities of female entrepreneurship are reduced to a minimum or they do not exist at all (UNWTO, 2019).

Multidisciplinarity of tourism provides the opportunity for women entrepreneurs to exploit their potential in various business activities, as owners of accommodation facilities, catering facilities, tourist agencies, enterprises for organization of events in destinations, counselling for small renters, promotion of tourist destination through web portal, selling accommodation through the internet, producing souvenirs, agricultural products for tourism needs, gastronomic offer, tourist online magazine, etc. Through an innovative approach to entrepreneurship, women entrepreneurs contribute towards diversification of a tourist product and improving its quality, and open new possibilities for competitiveness of Croatian tourism on the global tourist market. Data from the UNWTO (2019) show that a share of self-employed women in tourism of a greater number of European countries is bigger in relation to the wider economy, i.e. in Austria in 2018 there were 38,3% of self-employed women in tourism in relation to 37,7% in the wider economy, in Spain 36,3% in relation to 34,2%, Great Britain 32,4% in relation to 32,2%. Republic of Croatia also shows a greater share of women trade owners in the activity of provision of accommodation and preparation and serving food and beverages (35,1% in 2018), in relation to the total economy (33,1%), but its decrease can be noticed in the period 2010-2018 (table 2).

According to the data from FINA (2019), trading enterprises in the activity of provision of accommodation, and preparation and serving food and beverages participate in total ownership women participate with a slightly greater share in relation to the total economy (24,8 % in year 2018 in relation to 22,0 %). If to this set is added a set of mixed founders in which women participate as well (9,1%), then their share is increased to 33,9% and approaches to the share of women in trade.

Table 2: Difference of share of women considering the ownership of the crafts and trades and trading enterprises in the activity of provision of accommodation and preparation and serving food and beverages and total economy in the Republic of Croatia in the period 2010-2018 (in %)

Year	Crafts and trades			Trading enterprises		
	Share of women in total in %	Share of women in the activity of provision of accommodation and preparation and serving food and beverages	Difference	Women founders of the trading company-total	Activity of provision of accommodation and preparation and serving food and beverages	Difference
2010	23,1	29,3	6,2	17,3	-	-
2011	29,5	33,6	4,1	18,0	-	-
2012	29,7	33,2	3,5	18,5	-	-
2013	29,9	33,3	3,4	19,6	-	-
2014	30,6	33,9	3,3	20,4	-	-
2015	31,4	34,2	2,8	18,3	-	-
2016	32,0	34,2	2,2	21,8	-	-
2017	32,5	34,4	1,9	21,9	24,4	2,5
2018	33,1	35,1	2,0	22,0	24,8	2,8

Source: Authors´ adaptation according to the Croatian Bureau of Statistics (2020) and FINA (2019).

Trading enterprises in the activities of provision of accommodation and preparation of food and beverages in the ownership of men participate with a significantly greater share in relation to women, 57,9% in 2018 (reduction for 1,1% in relation to 2017), and have a triple higher number of employees (26.738 in relation to 8.861 of employed in trading enterprises owned by women). They employ on average more employees than those in the ownership by women (4,1 in relation to 3,17), and are achieving higher income per employee (for 26,3% in 2018). This points to the greater activity of trading enterprises in the ownership by men in relation to the trading enterprises owned by women. Still, the significance of enterprises in the ownership by women is greater and greater, and its number in 2018 is increased for 18,2% in relation to 2017. Trading enterprises owned by women achieve greater growth of income per employee in relation to trading enterprises owned by men (8,3 % in 2018 in relation to 2017, respectively 3,1 %).

Number of trades and trading enterprises in total or partial ownership by women in activities of provision of accommodation and preparation and serving food and beverages, as well as the number of employees in them and achieved income are the indicators of influence and significance that women have in Croatian tourism. Growth of their number is a clear indicator that women are entering more and more into the business world precisely through tourism activities.

3. Women managers in Croatian Tourism

Considering the representation of women in Croatian tourism, it is completely understandable that they are represented and influential in the segment of making managerial decisions. Based on the data about the number of trades and trading enterprises in the ownership of women it is visible that about 30% of them in the activity of provision of accommodation and preparation and serving food and beverages possess and manage their own trade and trading enterprises, so it can be stated that in that percentage they are also managers.

Authors´ research that was conducted in 150 leading enterprises in the Republic of Croatia according to the achieved incomes in 2018 (45 joint stock enterprises and 105 limited liability

enterprises) has shown the position of women on top managerial positions, in supervising committees, and management of trading enterprises. In 2018 observed trading enterprises have employed 26.283 employees or 37,9% of total number of employees in trading enterprises in the activities of provision of accommodation and preparation and serving food and beverages, and the first 20 trading enterprises according to the achieved income have participated in total incomes of trading enterprises in the activities of provision of accommodation and preparation and serving food and beverages with 25,0%. A supervising committee and management of the company was established in 63 trading enterprises (42%), and in 87 trading enterprises (58%) it was not established. In trading enterprises with the supervising committee there was 20.700 employees (78,8 %) (table 3).

Table 3: Women in the supervising committees and management of trading enterprises in 2018

	Trading enterprises		Employees		Members of the supervising committee			Board members		
	Number	Share (%)	Number	Share (%)	Total	Women	Share of women (%)	Total	Women	Share of women (%)
Supervising committee	63	42,0	20.700	78,8	262	58	22,1	109	15	13,8
Without the supervising committee	87	58,0	5.583	21,2	-	-	-	134	42	31,3
Total	150	100,0	26.283	100,0	262	58	21,3	243	57	23,5

Source: Authors´ adaptation according to the Croatian Chamber of Commerce (2020)

Observed trading enterprises had 262 members of the supervising committee and 243 management members. From the total number of members of the supervising committee 204 are men (77,9%) and 58 women (22,1%). In the management of trading enterprises in 2018 there was 186 men (76,5%) and 57 women (23,5%). Trading enterprises with the supervising committee had 109 persons in the company´s management, of which 94 men (86,2%) and 25 women (13,8%). Slightly smaller difference is noticeable in the trading enterprises in which there is no supervising committee; of total number of management members 134 were men (68,7%), and women with 31,3%.

Furthermore, the analysis covered participation of women in the supervising committee and management of trading enterprises in relation to the size of the trading company (micro, small, medium and large) (table 4). The greatest share of women in the supervising committees of the observed trading enterprises had small trading enterprises (30,0%), and the smallest share large trading enterprises (15,0%). Share of women in the management of these trading enterprises was 0,0% in large trading enterprises up to 50,0% in micro trading enterprises. In trading enterprises in which supervising committee was not established, women participate in the greatest share in the management committees of small trading enterprises (40,8%), and in the smallest in micro trading enterprises (0,3%).

Table 4: Women in the supervising committees and management according to the size of trading enterprises in 2018

	Trading enterprises		Employees		Members of the supervising committee			Board members		
	Number	Share (%)	Number	Share (%)	Total	Women	Share of women (%)	Total	Women	Share of women (%)
Trading enterprises with the supervising committee										
Micro	2	3,2	7	0,0	6	1	16,7	2	1	50,0
Small	5	7,9	157	0,8	20	6	30,0	6	0	0,0
Medium	34	54,0	4.110	19,9	136	36	26,5	60	9	15,0
Large	22	34,9	16.426	79,3	100	15	15,0	41	5	12,2
Total	63	100,0	20.700	100,00	262	58	22,1	109	15	13,8
Trading enterprises without the supervising committee										
Micro	6	6,8	13	0,3				8	1	0,3
Small	35	40,2	1.058	18,9	-	-	-	49	20	40,8
Medium	43	49,4	3.693	66,1	-	-	-	70	19	27,1
Large	4	4,6	819	14,7	-	-	-	7	2	28,6
Total	87	100,0	5.583	100,0				134	42	31,3

Source: Authors´ adaptation according to the Croatian Chamber of Commerce, 2020.

Average number of the members of the supervising committees in the observed trading enterprises is 4,2, while the average number of women in the supervising committee is 0,9. Average number of members of the management in trading enterprises is 1,62, and the average number of women in management 0,38 (in trading enterprises with the supervising committee 0,24, and in the trading enterprises without the supervising committee 0,48) (table 5).

Table 5: Average values of members of the management and supervising committees in the observed trading enterprises in Croatia in 2018

	Management members	Women	Members of the supervising committee	Women
Average	1,62	0,38	4,2	0,9
Median	1	1	4	1
Mod	1	0	3	1
Maximum value	6	3	7	3
Minimal value	1	0	1	0
Variations	5	3	6	3
Total number of members	243	57	262	58
Total of observed trading enterprises	150	150	63	63

Source: Authors´ adaptation according to the Croatian Chamber of Commerce, 2020

The median number of members of Board is 1, as well as that of women, while that of the members of the Supervisory Board is 4,2 and that of the women in the Supervisory Board is 1. The Mod indicates on the most frequent number of members of the Supervising Committee, 3, while that of women in the supervising committee is 1. The most frequent number of members of the board is 1, while the most frequent number of women as members of the board is 0, which means that in the observed trading enterprises most frequently there is no women in the management, as it is the most frequent situation that in the supervising committees appears only one woman.

The data indicate a very low level of participation of women on top managerial positions (unless they are not entrepreneurs at the same time). However, in practice it is possible to stumble upon

positive trends in improving the position of women on managerial levels. I.e., Valamar Riviera d.d. which in 2018 employed 5.770 employees[2] (9,2% of total number of employees in the provision of accommodation and preparation and serving food and beverages) increased the share of women managers from 39,0% (167) in 2016 to 41,6% in 2018. In the operating sector women managers participate with 45,0%, while in the corporate services they participate with 36,0% (Valamar Riviera, 2019, 80). However, it can be stated that the situation in terms of relations among genders in managerial functions in tourism is changing, which is indicated by a significant progression of women in acquiring responsible positions within the hotel enterprises.

3.1. Formal and informal education of women in tourism

Education and qualifying in tourism promote gender equality and strengthening of women in the tourism sector (UNWTO, 2019, 8). Women make the majority of students in the formal education, as in the world, and in the Republic of Croatia. From the total number of students who finished high school of catering and tourism in the school year 2017/2018 there was 1.216 of women (67,4%). In the Crafts high schools' women make a smaller share than men, and in the school year 2017/2018 there was 887 of them (43,2%). Women have, in a greater ratio (53,1%), finished a professional school of catering intended for the adults. In 2018, higher education institutions were finished mostly by female students (60,6%) (Croatian Bureau of Statistics, 2019b). Share of women who in the period 2014-2018 finished a university study of Faculty of Tourism and Hospitality Management moved from 72,5% and 79,1% (table 6).

Table 6: Share of women who finished university study of the Faculty of Tourism and Hospitality in the period 2014-2018 in %

	Share of women in %
2014	73,9
2015	74,6
2016	72,5
2017	75,2
2018	79,1

Source: Source: Authors´ adaptation according to the Croatian Bureau of Statistics (2020c)

Greater education of women is visible as well by analysing the number of employees in legal entities in Croatian tourism in 2018, in which the activity of travelling agencies, travel organizers (tour operators) and other reservation services of these activities shows a greater share of women in high, higher and secondary education in relation to the activity of provision of accommodation and preparation and serving food and beverages in year 2018 (table 6).

Table 7: Share of employed women in total number of employees in legal entities according to the level of professional education in %

	Activity of provision of accommodation and preparation and serving food and beverages	Travel agencies, travel organizers (tour operators) and other reservation services and activities related with them
High – total	61,6	68,7
Doctors	65,6	100,0
Masters	66,1	42,9
Higher	55,2	62,7

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[2] Without the employees of Imperial Rab and Hotel Makarska.

	Activity of provision of accommodation and preparation and serving food and beverages	Travel agencies, travel organizers (tour operators) and other reservation services and activities related with them
Secondary	52,0	49,1
Lower	73,0	62,5
High qualified	30,8	42,9
Qualified	49,2	25,6
Half-qualified	68,9	17,6
Non-qualified	70,2	62,5

Source: Authors´ adaptation according to the Croatian Bureau of Statistics (2019a)

Growth of demand for employees in tourism and the need for ensuring quality, creative, innovative and flexible employees has resulted in establishing regional centres of competitiveness in Zabok, Split, Osijek, Opatija, Pula and Dubrovnik, as centres of professional education in the sector of tourism and catering. This seeks strengthening the interest for professions in the tourism and catering and ensure more internships for students in order to make their entry into the labour market easier. Project is financed with the European Union funds. Besides that, centres should also ensure additional professional knowledge and necessary skills for the adults.

Awareness about the importance of informal education is more and more present with the Croatian employers, and employees, among which are women as well, participate in diverse education programs and educations, one-day and multiple-day courses and seminars, fairs, conferences, exhibitions, congresses, etc. In the lack of quality education programs which would train personnel in tourism for the needs of labour market, internal education programs become the key through which employers tend to achieve competitiveness (i.e. Valamar Academy). Developing personal competences through an educational program creates satisfied employees who are loyal to the employer, and at the same time creates the image of an attractive company for recruiting new employees.

3.2. Influence of women on Tourist Policy

According to the data from the UNWTO (2019), 23 ministers of tourism in the countries covered by the research in 2018 were women, and in relation to the year 2010 their share is increased for 2%. That share is slightly bigger from the share of total number of women in the ministry´s positions (20,7%). In Croatia the representation of women in the Parliament is on the level of 20,5%, and in the government four women are ministers (19,0%).

Republic of Croatia has 313 tourist boards and 19 agencies in which the representation of women is 52,6% (10 directors/heads of agencies) and Croatian National Tourist Board (Croatian National Tourist Board, 2020). Women are not represented on the highest functions like Minister of Tourism or Director of the Croatian National Tourist Board. However, women are taking significant positions by which it is influenced on the policy of tourism (i.e. assistants of the Minister of Tourism, adviser of the Minister of Tourism, etc.). By focusing on Destination Management, women employed in tourist boards on various levels stimulate innovative tourist offer in their destinations (the example of city of Zagreb), they act towards greater recognizability of Croatia on foreign markets (example of the representation of the Croatian Tourist Board in New York (Croatian National Tourist Office, Inc. – New York) whose

activities resulted in increasing tourist arrivals for 119% from Canada and the USA and tourist overnights for 76,7% from Canada and 124,3% from the USA in the period 2014-2018.[3]

Trade union organizations are dominated by men, both at the head of trade union branches and in union entities, despite an equal number of women and men joined in the union. The Presidency of the Croatian Trade Union for Tourism and Services is entirely made up of men, but within the trade union there is a Section of Women that works with the purpose of improving the position of women in Croatian tourism.

Entering the European Union opens various possibilities of financial support of development of female entrepreneurship, HBOR loan programs for entrepreneurship of women, etc. Besides that, significant efforts are being made for economic strengthening of women through employment through tourism (revival and running the dead resources of rural tourism, gastro offer, crafting souvenirs, etc.). Future of Croatian tourism will most definitely depend on gender equality. Women need to be encouraged towards accepting managerial positions. This is possible only through firm instalment of gender equality on Tourism Policy.

4. Conclusion

In Croatian tourism women are taking a significant role which primarily arises from their greater representation in employment. This can be clarified by the character of jobs in tourism which are being considered more "female" as a phenomenon based on the hospitality and traditional gender roles which must have had key role in the very beginning of tourism development. However, throughout the time women have fought also for the work on the positions that are not typically "female", especially through female entrepreneurship. In corporation systems women are taking more and more significant positions on managerial functions, and through diverse education programs they are stimulated for taking over the managerial positions. It can be concluded that gender inequality in Croatian tourism is on lower level in relation to the wider economy, and it is confirmed how women through activities connected with tourism have more opportunity for progress. However, gender inequality is still present, at the expense of women, which is clearly visible through their lower representation on managerial positions in relation to men as well as key positions of creating tourism policy. Furthermore, women, although more educated, have lower salaries from their male colleagues on the same workplaces. By following the research results it is clear that women in tourism are making a resource, by whose retention on low-qualified positions diverse talents and capabilities remain unexploited. This is certainly not the goal that the Republic of Croatia is aiming for, so it is necessary, through tourism policy, to encourage women to participate more in entrepreneurship and management.

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[3] Authors´ calculation

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A scientific paper

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THE IMPACT OF CHINA ON EUROPEAN UNION INDUSTRY

ABSTRACT

The industry is at the core of the European Union growth and development. According to Eurostat, it provides more than 52 million direct and indirect jobs, it represents more than 50% of European exports, and it accounts for approximately 65% of investments in research and development. However, in the future, the EU industry will have to face "megatrends" linked to globalization, climate change, energy transition, fourth industrial revolution and socioeconomic changes. Certainly, there are the threats and opportunities associated to these challenges and the impacts of the above-mentioned megatrends will differ depending on the industrial sector, but also on territorial characteristics. On the other hand, China is rapidly becoming a great industrial competitor and a powerhouse in high-tech and growth sectors. Through the extensive Made in China 2025 strategy, China aims to become a world leader in 10 key industrial sectors. Hence, this paper (i) explores the European Union industry's position vis-à-vis China's, (ii) analyses and compares which sectors are dominated by the EU and which sectors are not. The results point to the fact that the EU needs to strengthen its industrial base through intensive coordination to maintain its position.

Key words: *industry, industrial policy, European Union, China.*

1. Introduction

Industry is of crucial importance for the overall functioning of the European Union (EU) economy due to its multiplier effects on other sectors, its effect on future progress, prosperity and wealth creation, and its significant contribution to economic growth, employment and innovation. Hence, industrial policy is back on the agenda around the globe (Aiginger and Rodrik, 2020; Landesmann and Stöllinger, 2020) and accordingly in the European Union (Pianta and Zanfei, 2016; Savona, 2018), especially after the global financial crisis in 2008. In that sense, the European Commission (EC) published a series of communications, strategies and action plans in recent years explicitly addressing the issue of an "EU industrial policy" (European Parliament, 2019), which in the EU "has traditionally been a mixed approach, incorporating both horizontal and sector-specific measures, with significant variation in focus

over the decades" (Landesmann and Stöllinger, 2020). However, industrial policy can no longer be an isolated policy, developed on its own (Aiginger and Rodrik, 2020).

Besides, global competition is increasingly fierce, and Europe's competitors do not shy away from adopting more aggressive industrial strategies or protectionism, subsidising and shielding their own national industries (Bjerkem et al., 2019). In that context, Europe's open and competitive Single Market represents the biggest added value for the progress of industry. However, while Europe has opened much of its market to the rest of the world, European industry rarely enjoys equal market access to third countries (Bjerkem et al., 2019). Some countries, such as China, are even increasingly closing off further market segments to bolster their own companies and become 'self-sufficient' (Bjerkem et al., 2019), thus posing a major challenge to the economy of the European Union. More precisely, the rise of China, with its geopolitically motivated One Belt, One Road initiative and its comprehensive and ambitious industrial policy strategy entitled 'Made in China 2025', is a major trigger for the new European industrial policy (Landesmann and Stöllinger, 2020).

The severity of state of the industry was confirmed by President-elect of the Commission, Ursula von der Leyen. To help drive the change Europe need, she announced her plan for a future-ready economy through new industrial strategy (von der Leyen, 2019). The promise made has resulted in a new industrial strategy adopted in March 2020 (*A New Industrial Strategy for Europe*). Namely, EU is in the middle of two great transitions – to an economy that's both digital and green and "will face challenges ("megatrends") from multiple sources: technological changes, socio-political changes (including globalisation and geopolitics) and climate change" (European Parliament, 2019). Simultaneously, all these factors will represent threats and/or opportunities, depending on how much Member States are prepared for the upcoming changes. It is hard to predict where these megatrends will lead.

China is certainly a challenge but also "offers significant opportunities to European businesses and vice versa" (BusinessEurope, 2020). Aiginger and Rodrik (2020) claim that China is both a threat and an example to emulate. Nevertheless, the EU and China are linked by an enduring relationship because they are two of the three largest economies and traders in the world (European Commission, 2019a). China is also the EU's second biggest trading partner behind the United States and the EU is China's biggest trading partner (European Commission, 2019a). Therefore, the adoption of a new European industrial model to respond to a series of specific and interconnected challenges facing EU industry is required. Aiginger and Rodrik (2020) state that "the industrial policy of the future is unlikely to look like the economist's traditional conception of it: top-down policymaking, targeting pre-selected sectors, and employing a standard list of subsidies and incentives" and this must be kept in mind when adopting new policies.

It is evident that there is a need to analyse the impact of China on the European Union's economy in the context of taking over leadership on the world industrial scene. The paper consists of five chapters. After the introduction, the second chapter covers the framework that defines the relations between the European Union and China, and then, in the third chapter, discusses the strategic documents implemented by these two to guide global industrial policy. Chapter 4 covers the empirical analysis of the EU and China industries. Chapter five concludes.

2. European Union – China: Cooperation framework

The relation of Europe and Asia is a history long. Up to 2020, almost half EU imported goods and services come from Asian countries. Over one third of exports from the EU go to Asian markets. This economic exchange is not the only relationship between Europe and Asia although we will consider only that part of the story here. Asian country of interest is China as it is the most important EU trade partner. China is especially important as a hub of global supply chains. The EU and China, as the world's second and third largest economies with each being the other's largest source of imports and second largest export destination (García-Herrero et al., 2017, 1), consider their bilateral economic cooperation as particularly important. The EU is China's biggest trading partner while China is the EU's second largest trading partner behind the United States. Trade in goods between the EU and China is worth well over €1.7 billion a day (EUEA, 2019). That China is prominent topic can be seen in EU's external relations agenda. All said, along with US protectionist policies as well as serious economic challenges which resulted from the 2008 global crisis and Coronavirus epidemy, contribute to more bilateral polemic. As non-competitors in terms of global security and despite some fundamental divergences (e.g. related to state intervention and fundamental human rights) their economic relationship concerns areas ranging from trade and investment to human rights and cyber security. It is expected that deepening of this relationship should bring mutual benefits in terms of driving economic growth, creating jobs, and improving levels of social welfare (García-Herrero et al., 2017, 1).

EU-China diplomatic relations were formally established in 1975 and three years later, in 1978 the (then called) European Communities signed an economic agreement with China. Given the above-mentioned importance of their economic relations, the goal is to maintain very close trade and investment links, while developing a more balanced economic relationship (EUEA, 2019).

Eckhardt (2019) identifies three phases in EU-China trade relations. The first phase – from 1978 until the Tianmen Square massacre in 1989 – was dominated by EU protectionism against Chinese imports and a relatively powerless China. During the second phase – from 1989 until 2002 – trade relations where increasingly driven by China's economic pull, while the EU continued with its protectionist measures against China. The third phase – from 2002 – can be characterized by increased politicization between the EU and China.

During the third phase in EU-China trade relations, in 2003, the first comprehensive strategic partnership between EU and China formed. A top-level joint document "The EU-China 2020 Strategic Agenda for Cooperation", adopted in 2013, guides that strategic partnership (Saarela, 2018). Key messages in this document are the EU's respect for China's sovereignty and territorial integrity and China's support to EU integration. As China continued its economic growth along with its importance in EU's external trade, EU adopted the Joint Communication on elements for a new EU strategy on China on 22 June 2016 as its strategy on China (EC, 2016). The requirements EU imposes on China are supportive of rules-based international order and connectivity through transparency, reciprocity, non-discriminatory market practices, level playing field for economic operators, fair competition across all areas of cooperation, and protection for intellectual property rights. In particular, a greater opening-up of the Chinese market to European business and investment is a must (Saarela, 2018). In 2018, the initiative Elements for an EU Strategy on Connecting Europe and Asia was introduced but for information purposes only.

To date, the negotiations on a comprehensive EU-China Investment Agreement (CAI) launched in 2013 with a goal of deepening and rebalancing relations with China are still in process. The EU-China CAI has been conceived as a stand-alone investment agreement, but its scope went beyond the usual investment protection dimension to equalize level of openness in China's market with the EU's market. In that sense, the EU's top priorities are a CAI which would provide proper reciprocity in terms of market access for Chinese and EU investors, ensure a level playing field by liberalising China's economy and reducing the role of state-owned enterprises and a reliable and more transparent regulatory environment for investors and investments (Saarela, 2018). So far, 27 rounds of the EU-China investment agreement negotiations have taken place, the most recent one in March 2020. Goals set by EU-China CAI (new market opportunities) apply to the whole economy and all EU-China relations.

The Chinese and European economies have benefitted tremendously from China's accession to the WTO in 2001 (BussinessEurope, 2020). It implied that China would reform and liberalise its economy. While there has been a significant progress, key problems still remaining are (*i*) a lack of transparency, (*ii*) industrial policies and non-tariff measures that discriminate against foreign companies, (*iii*) strong government intervention in the economy through state-owned enterprises and, and (*iv*) poor protection and enforcement of intellectual property rights (EC, 2020b).

Namely, many EU business leaders have come to perceive Chinese companies as sources of unfair competition while China's state-owned enterprises (SOE) creates concerns for the EU about market access. As for China, its government believes that the EU discriminates against China's SOEs claiming that they are becoming increasingly corporate in their structure and market oriented through reforms (García-Herrero et al., 2017).

The scale of China's Belt and Road initiative (BRI) projects (which started in 2013 to boost economic integration and connectivity) has raised concerns in some countries regarding sustainability and the ability of fiscally vulnerable nations to service and repay the substantial amounts borrowed from Chinese financial institutions (Ghossein et al., 2019). One of the most recent tensions between EU and China are regarding the cooperation between China and Central and Eastern European Countries (Chine-CEEC, also 17+1, formerly 16+1). It is stated that cooperation's main goal is promotion of business and investment relations between China and 17 CEEC countries (Albania, BiH, Bulgaria, Croatia, Czech Republic, Estonia, Greece, Hungary, Latvia, Lithuania, North Macedonia, Montenegro, Poland, Romania, Serbia, Slovakia and Slovenia). It can be seen in action on the example of many infrastructure projects carried out by Chinese companies and financed by Chinese loans e.g. building of Croatian Peljesac Bridge and its access roads (see more on http://www.china-ceec.org/eng/). The EU raised concerns regarding this cooperation describing it as aggressive Chinese investment initiatives (CRS, 2019) and claiming that China is implementing the 'divide and conquer' strategy where the EU unity and competition rules (e.g. the EU transparency requirements in public tenders) are to be shaken. Even the European Commission for the first-time labelled China as a "systemic rival" of the EU (EC, 2019a).

Finally, there is growing awareness among the European business community that there are systemic problems between EU and China. The EU switches the ball to China saying that their bilateral relationship depends on whether China can successfully address the growing challenges which European companies face when doing business on the Chinese market or when competing with Chinese companies on the European market and on third markets

(BussinessEurope, 2020, 5). What is clear is that recent development in bilateral economic and trade relations makes EU and China closely interdependent.

3. China vs. European Union's strategy to achieve industrial modernisation

As for the EU-China relationship in the context of struggle for industrial leadership, the requirement for a stronger domestic industrial policy is the key. The EU industry is currently going through major challenges, from a slowdown in global trade, a rise in tariffs and protectionism, an emergence of new technologies and development of global value chains to need for industry to become more sustainable, competitive and climate-neutral. These constitute some of the main drivers for industrial transformations and must be addressed effectively by an EU industrial strategy in order to compete China adequately. The EU and its member states, both individually and as a unit, have been seeking for strategies to meet these challenges (Bjerkem et al., 2019). On the contrary, China's economic power and political influence have grown with unprecedented scale and speed in the last decade, reflecting its ambitions to become a global leader (EC, 2019a).

While the EU focuses on creating unique strategies for more competitive Europe as a unit, the member state's strategies focus on their own, domestic industry. As Bjerkem et al. (2019) write, this is not surprisingly due to a lack of a strong and efficient industrial strategy at the EU level. Even Germany, on the eve of the European Commission's rejection of the Siemens-Alstom merger (on February 2019), presented a new industrial plan for Germany, "Industrial Strategy 2030 – Strategic Guidelines for German and European Industrial Policy". They justify the strategy as necessary for the German state to fulfil its promise to maintain "well-being for all". Germany's industrial strategy for 2030 includes suggestions on how to reform EU competition policies as to allow 'European champions' to 'take on' competition from China and the US. It was quickly followed by a "Franco-German Manifesto for a European industrial policy fit for the 21st Century" which highlighted that Europe's economic strength will be hugely dependent on Europe's ability to remain a global manufacturing and industrial power (BMWi, 2019). At the same time, French Economy Minister declared that blocking the merger was a "political mistake" which "will serve China's economic and industrial interests". Meanwhile, his German counterpart stressed that the decision (European Commission's rejection of the Siemens-Alstom merger) "demonstrates the urgent need for a European Industrial Strategy" and the need for "strong European champions" (Bjerkem et al., 2019). Though European industrial strategy already existed earlier, and was updated by Commission on September 2017, many EU Member states considered it too limited (NOVE, Germany's industrial strategy 2030).

As many of the biggest challenges European industry faces are global, the best path for the EU and its member states is to coordinate their efforts, support the renewed industrial strategy and address the challenges together. Protecting one's own national industry and aggregation of national measures can lead to further fragmentation of the Single Market and related EU policies that are fundamental to the competitiveness of European industry. A common EU approach would allow member states to respond to initiatives being developed by the EU's main competitors e.g. Made in China 2025, Belt and Road Initiative, America First (Bjerkem et. al, 2019).

As mentioned earlier, the EU and China are linked over 40 years enduring relationship in which China has evolved from a trivial player to the world's second largest economy, from a primitive pre-industrial technology level to a technological leader. Distorted systemic differences of China's economic policy-making that were tolerable in the past are now a profound challenge

for the EU economy. The "China challenge" is just one issue in an emerging debate about the need for a revision of Europe's competition and industrial policies (Huotari et. al 2019). China's growing economic presence and power can be seen in its presence in global economic policies and projects, especially in infrastructure development, as noted earlier (CRS, 2019). China's Belt and Road initiative (BRI), also called "One Belt, One Road" (OBOR), was launched in 2013 to boost economic integration and connectivity through major infrastructure throughout Asia, Europe, Africa, and beyond, complemented by projects to enhance productive capacity in participating countries, including economic and trade cooperation zones, trade promotion programs and trade and transport agreements (Ghossein et al., 2019). As China's President describe it "The Belt and Road Initiative calls for joint contribution (…) this initiative is from China, but it belongs to the world. It is rooted in history, but it is oriented toward the future. It focuses on the Asian, European, and African continents, but it is open to all partners" (CRS, 2019).

Prior to the initiation of economic reforms and trade liberalization nearly 40 years ago, China maintained policies that kept the economy very poor, stagnant, centrally controlled, vastly inefficient, and relatively isolated from the global economy (CRS, 2019). Since opening up to foreign trade and investment and implementing free-market reforms in 1979, China has been among the world's fastest-growing economies (CRS, 2019). In particular, China is rapidly becoming a major industrial competitor in high-tech and growth sectors (Preziosi et al., 2019). It aims, through the Made in China (MIC) 2025 strategy, to become a world leader in 10 key industrial sectors: next-generation it, high-end numerical control machinery and robotics, aerospace and aviation equipment, maritime engineering equipment and high-tech maritime vessel manufacturing, advanced rail equipment, energy-saving vehicles and new energy vehicles, electrical equipment, agricultural machinery and equipment, new materials, and biopharmaceutical and high-performance medical devices (Preziosi et al., 2019). The MIC 2025 strategy aims to encourage substantial investments from national and regional governments to support domestic firms and improve knowledge infrastructures (Preziosi et al., 2019). The government intends to strengthen China's innovation capabilities and overall competitiveness by, in its own words, 'relying on market forces', though, in line with its 'socialist market economy', the state will remain central (Preziosi et al., 2019).

Made in China (MIC) 2025 is a comprehensive 10-year strategy that has the aim of transforming China into a global powerhouse in high-tech industries (Preziosi et al., 2019). It focuses on intelligent manufacturing in 10 strategic sectors and it was published by the State Council in May 2015. The target year 2025 refers only to the first phase of the strategy, in which the foundations are to be laid (Preziosi et al., 2019). This involves upgrading parts of the economy and developing a (reasonable) number of world-class enterprises able to compete with companies from industrialised/Western countries (Frietsch, forthcoming). There are two further phases, which last up to 2049, when the People's Republic of China will celebrate its centenary (Preziosi et al., 2019). Hence, in the last decade, China's economic power and political influence have grown with unprecedented scale and speed, reflecting its ambitions to become a leading global power (EC, 2019). Namely, China can no longer be regarded as a developing country because it is a key global actor and leading technological power (EC, 2019a).

Finally, the European Council in March 2019 called on the European Commission to present a "long-term vision for the EU's industrial future", addressing the challenges faced by industry. In order to redesign economy and update industrial policy, European Commission (2019c) on December 2019 adopted *The European Green Deal* (COM(2019) 640 final). The European Green Deal provides an initial roadmap of the key policies and measures for making the EU's

economy sustainable with goal to become climate-neutral by 2050. The goal of attaining a climate-neutral Europe by 2050, as proposed by the European Commission, will not be met unless industry is involved (Bjerkem et al., 2019). To deliver the European Green Deal requires the full mobilisation of industry.

In March 2020, at a time of moving geopolitical plates and increasing global competition, European Commission released a *New Industrial Strategy for Europe* which aims to deliver on three key priorities: maintaining European industry's *global competitiveness* and a level playing field, at home and globally, making Europe *climate-neutral by 2050* and shaping *Europe's digital future*. The package of initiatives (*The SME strategy for a sustainable and digital Europe*, *Long-term action plan for better implementation and enforcement of single market rules*, *Identifying and addressing barriers to the Single Market* and many others in process of adoption) outlines a new approach to European industrial policy that is firmly rooted in European values and social market traditions. It sets out a range of actions to support all players of European industry, including big and small companies, innovative start-ups, research centres, service providers, suppliers, and social partners (EC, 2020).

To conclude, it is evident that both economic powers in their own way want to fight for dominance and be on the throne of the world industry.

4. Empirical analysis: EU – China industry

The recent history of European industry is heavily marked by the crisis and the need to secure long-term recovery, which pushed industrial policy for the creation of a wide, umbrella-like policy with a multitude of goals (European Parliament, 2019). The declining contribution of the EU manufacturing to total GDP and the simultaneous fall of its share in global manufacturing have led to concerns about an overall loss of EU competitiveness, in particular vis-à-vis China (Marschinski and Turegano, 2019). On the other hand, China's economic growth has slowed down, but even at these more moderate rates, the country is poised to become soon the largest economy in the world (Aiginger and Rodrik, 2020). Namely, the size of the European economy in 2005 was €11.6 trillion whereas the Chinese economy was worth €1.8 euro trillion, at current market prices; the EU economy was six times larger than that of China (European Commission, 2019b). Today, the Chinese economy is worth €11.4 trillion euro, compared with €15.9 trillion for the EU 28 (European Commission, 2019b).

The European Union is China's biggest trading partner while China is the EU's second largest trading partner. Trade in goods between the EU and China is worth well over a billion a day (on average). The EU, which in the early 2000s was the world's largest economic block in absolute terms, has in the last decade been overtaken by the US (Bjerkem et al., 2019). Additionally, its relative share of the world's GDP has been declining, and the world's economic centre is gradually moving eastwards (Bjerkem et al., 2019). China's share of the global economy in purchasing power parity (PPP) was less than 10% in 2005, but it more than doubled to reach 20%, the largest in the world today (Bjerkem et al., 2019) (Figure 1(b)). In the last 15 years, the Chinese economy grew by more than sixfold (see Figure 1(a) and (b)).

Figure 1: GDP comparison: China takes the lead over the European Union 1980-2020
(a) GDP in current prices

GDP current prices ($bn.)

(b) GDP in PPP

GDP PPP (% of global economy)
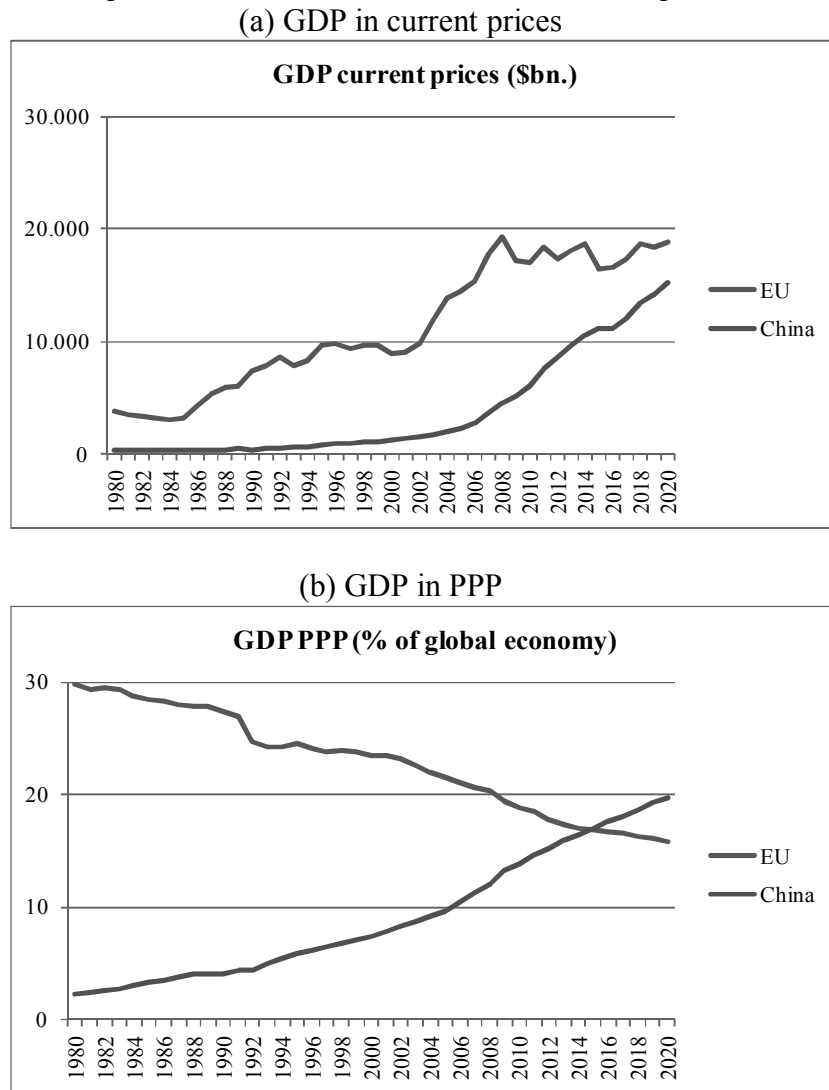
Source: International Monetary Fund

Figure 2 shows the world largest traders. China (EUR 2,111 billion, 16.8 %) was the largest exporter in the world, followed by the EU (EUR 1,958 billion, 15.6%) and the United States (EUR 1,410 billion, 11.2 %). According to Aiginger and Rodrik (2020), the China's "rapid export-oriented industrialization and impressive manufacturing sector have played a critical role in this achievement". Next, China (EUR 1,808 billion, 39.9%) was the third largest importer in the world, preceded by the United States (EUR 2,211 billion, 17%) and the EU (EUR 1,980 billion, 15.2%).

Figure 2: Share of national exports (imports) in world exports (imports) in 2018 (all products, %)
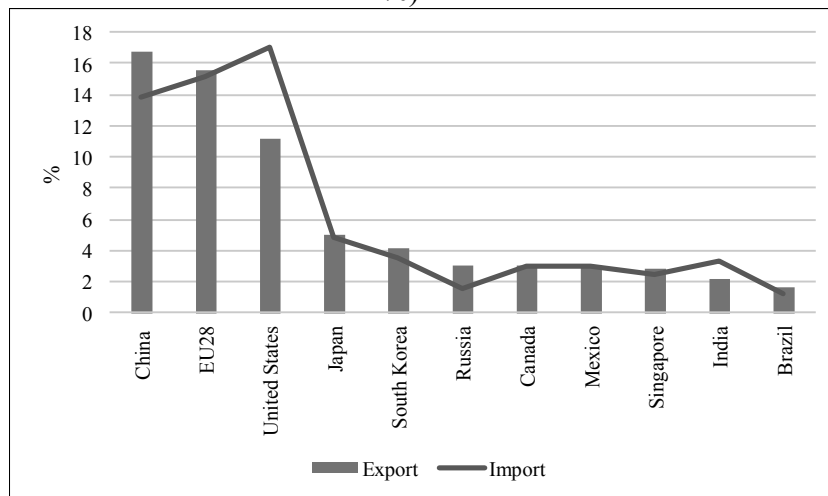
Note: China except Hong Kong, EU28 (2013-2020)
Source: Eurostat

When considering the share of total employment in industry, it is evident that the share of the employment in EU's industry has been decreasing steadily since 1991, while in China is slowly growing. Since 2008, the share of employment in industry is higher in China than in the EU (Figure 3). According to Ait Ali and Dadush (2019) research, "most of the net job creation in manufacturing was in China, while most countries – both developing and developed – saw manufacturing employment decline as a share of total employment and several, including all or nearly all advanced countries, saw an absolute decline".

Figure 3: Employment in industry (% of total employment), 1991 – 2019
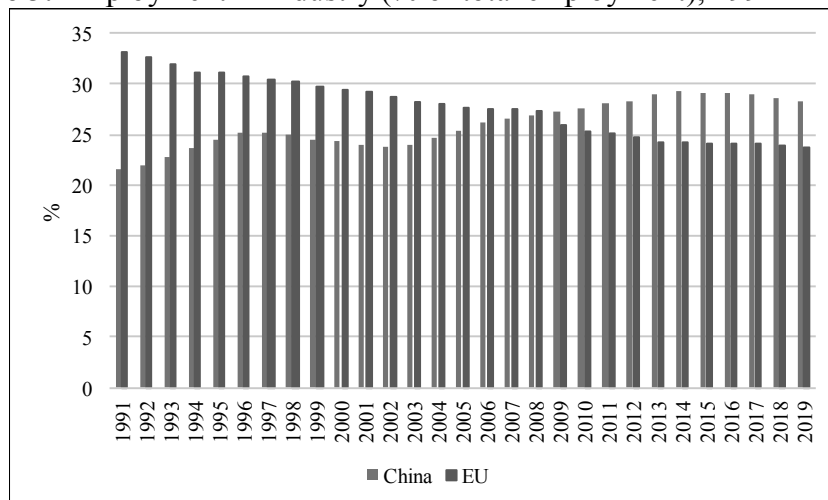
Source: International Labour Organization, ILOSTAT database

Figure 4 shows the industry value added (% of GDP and annual % of growth) trend in the period 1991 – 2019. It is clear that China has a much larger share of industry value added during the entire observed period. According to the latest data, in 2018, the share of value added in GDP was twice as high in China compared to the EU.

Figure 4: Industry value added (% of GDP and annual % of growth), 1991-2019
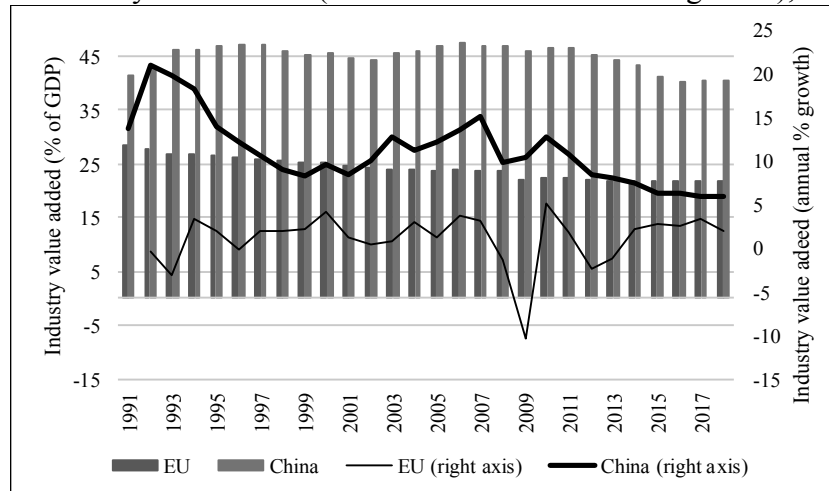
Source: World Development Indicators

The analysis of manufacturing value added (MVA) in the period 1990 to 2016 also shows that industrial output in China took the lead in 2011 and is continuing to grow. On the other hand, the European Union MVA has not yet reached pre-crisis levels and continues to drop (Figure 5).

Figure 5: Manufacturing value added (MVA) in current USD, 1990 – 2016
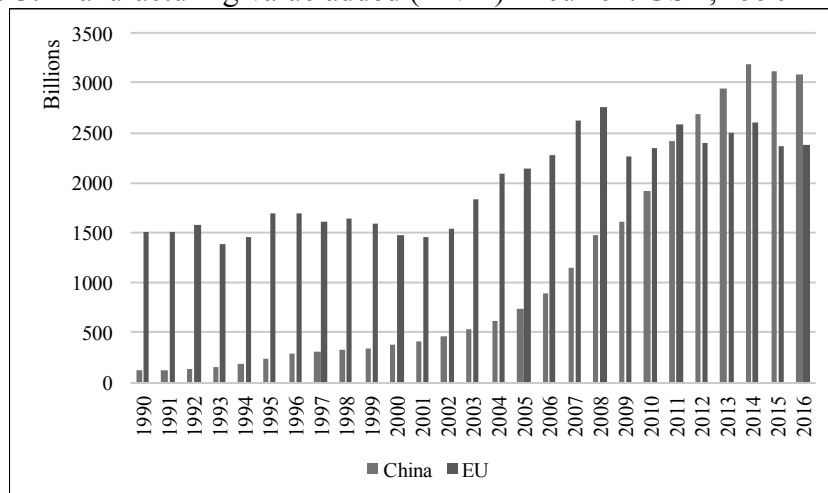
Source: UNIDO, 2020

The above analysis is also confirmed by the Competitive industrial performance (CIP) data. Namely, according to Competitive industrial performance report 2018, Germany achieved the highest composite score and thus tops the CIP rank – as it has for all but one year since 1990. It is followed by Japan in 2nd place and China in 3rd place (UNIDO, 2019). China's competitiveness has continued to surge, rising from rank 5 in 2014 and 22 in 2000 (UNIDO, 2019). China's climb in the CIP ranks ejected the United States of America from the top 3 to rank 4 and the Republic of Korea down to 5th place (UNIDO, 2019). Thus, successful industrialization processes are not only characterized by the expansion of manufactured exports but also by profound structural change towards technology-intensive industries and this has been the case for China and other successful East Asian countries (UNIDO, 2019). However, "while China should be recognised for making genuine advances in innovation and technology, it is also clear that at least part of its success is owed to generous state subsidies, significant market protection and a lengthy track record of unfair trade practices, commercial espionage

and intellectual property right infringements" (European Commission, 2019b). Its 'Made in China 2025' strategy specifically gives Chinese companies preferential access to capital, both to conduct R&D but also to penetrate markets abroad (European Parliament, 2019a).

Furthermore, the most recent Trade and Investment Barriers Report by the European Commission concludes that European industry currently faces a record number (425) of active trade and investment barriers in 59 third countries (Bjerkman et al., 2019). Interestingly, for the first time, China is topping the list of recorded barriers, followed by Russia, India, Indonesia, and the US. The Commission also estimates that the new barriers recorded in China in 2018 have a significantly larger impact (€25.7 billion) than the restrictions imposed by any other trade partner (Bjerkman et al., 2019). According to McKinsey Global Institute (2019) "China has been reducing its exposure to the world, while the world's exposure to China has risen". This significant increase in trade barriers in China is mostly explained by new restrictions within the ICT sector and on high-tech industries (Bjerkman et al., 2019).

Table 1 shows top five product groups exported by EU28 and China, based on Intracen data for 2018, according to Harmonized System (HS) 2-digit level methodology. As it can be seen, of the top five product categories exported by China and the EU28, there is an overlap in as many as three categories (84 – Machinery, mechanical appliances, nuclear reactors, boilers; 85 – Electrical machinery and equipment and parts thereof; sound recorders and reproducers, television and 87 – Vehicles other than railway or tramway rolling stock). This clearly indicates on which products production are these economies oriented and in which products they want to position themselves. Based on McKinsey Global Institute (2019) analysis implicate that "Chinese technology producer have gained market share in key sub-segments" because China's continued innovation is at the centre of its economic development in an era of spreading digital, automation, and AI technologies. "Because technology value chains are some of the most complex, they require the most collaboration, and China is highly integrated in these value chains, with a large share of global exports and imports" concludes McKinsey Global Institute (2019). Hence, technology is undoubtedly at the heart of the changing relationship between China and the world. On the other side, the EU as a whole has a strong potential to play a bigger scientific role on the global scene, however, the overall level of R&D spending relative to GDP is still relatively low compared to some non-EU countries – Korea, Japan, the United States and China (OECD, 2019).

Table 1: Top 5 product groups exported by EU28 and China, 2018 (Euro thousand)

EUROPEAN UNION			CHINA		
Code	Product label	Exported value in 2018	Code	Product label	Exported value in 2018
	All products	5.319.966.328		All products	2.112.006.823
'84	Machinery, mechanical appliances, nuclear reactors, boilers; parts thereof	746.901.670	'85	Electrical machinery and equipment and parts thereof; sound recorders and reproducers, television ...	562.606.533
'87	Vehicles other than railway or tramway rolling stock, and parts and accessories thereof	646.447.278	'84	Machinery, mechanical appliances, nuclear reactors, boilers; parts thereof	364.065.828

EUROPEAN UNION			CHINA		
Code	Product label	Exported value in 2018	Code	Product label	Exported value in 2018
	All products	**5.319.966.328**		**All products**	**2.112.006.823**
'85	Electrical machinery and equipment and parts thereof; sound recorders and reproducers, television **...**	481.921.103	'94	Furniture; bedding, mattresses, mattress supports, cushions and similar stuffed furnishings; ...	81.641.762
'30	Pharmaceutical products	329.114.449	'39	Plastics and articles thereof	67.855.613
'27	Mineral fuels, mineral oils and products of their distillation; bituminous substances; mineral ...	294.430.886	**'87**	Vehicles other than railway or tramway rolling stock, and parts and accessories thereof	63.586.640

Note: Products are classified by Harmonized System (HS) 2-digit level methodology
Source: INTRACEN

5. Conclusion

This paper aims to plot the EU-China relations especially in politics, trade, and industry. The main conclusions drawn are therefore concerning numbers and politics. As for numbers, they show that the two are world largest traders with China being the largest exporter in the world and the EU is following; also, the EU and China are the second and the third largest importers in the world, with US on the top. Above all, the European Union is China's biggest trading partner while China is the EU's second largest trading partner.

More from numbers in industry: the share of total employment in industry has been decreasing in EU while growing in China. This is reflected also in the industry value added where trend is clear – China has a much larger share of industry value added during the entire observed period (1991-2019). On top, the analysis of manufacturing value added (MVA) in the period 1990 to 2016 shows that industrial output in China took the lead in 2011 and is continuing to grow while the EU's MVA continues to drop.

Numbers affect the politics. Namely, China transformed from very poor, stagnant, centrally controlled, inefficient, and relatively isolated economy to trade and investment open and world's fastest-growing economy. Along with economic growth the strategic importance and bargaining power grew, and China is nowadays almost equally important negotiator as the European Union. The EU has still many propositions and conditions on China, and China is answering by its initiatives e.g. Made in China 2025, Belt and Road Initiative, 17+1 Cooperation etc.

The new situation concerning virus Covid-19 which affects world globally will surely affect the EU-China economic relations. Many manufacturers were left without inputs from China and the question if China is too important as exporter of intermediate goods arose. The EU will definitely consider its dependence on China. Thus, the coronavirus consequences will be seen not only in slowing down (or decreasing) the world economy growth but also in disorganization in global supply chains. Some analysis shows that the industry that will be the most affected is Computers and Electronics, followed by textiles (Demertzis & Masllorens, 2020). This may also mean that China will be more vulnerable and more prepared for new compromises with

the EU. The effects of coronavirus on the EU economy should also be counted in, and it is still to be seen how wide its full consequences will be.

This paper showed the industry level data and thus some questions remain open. Further aspects that can be considered are: (i) the discussion of the inter and(or) intra industrial trade to get a better insight into the EU-China economic relations which would bring more light into political aspect too, and (ii) the study of the post-Covid-19 global economy and the EU-China relations as it is highly possible that coronavirus effects will be considerable. These questions are highly intriguing and remain open for future research.

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THE COMPETITIVENESS AND ATTRACTIVENESS OF INVESTMENT ENVIRONMENT IN CROATIA AND EX-COMMUNIST COUNTRIES[1]

ABSTRACT

Increasing competitiveness and attractiveness of investment environment is one of the most important macroeconomic objectives of each national economy. Foreign direct investments have variety of positive impacts on host country: increase of export competitiveness, employment, competition, consumption and GDP, modernization of production equipment, transfer of new technologies and knowledge, filling the state budget through taxation and employee contribution payments, improving corporative culture, preserving jobs in joint ventures with domestic companies and more effective integration of the country into the international economy. In this paper is examined competitiveness and attractiveness of investment environment of Croatia and 21 ex-communist countries in the period 2013–2018. Aims of this research are to determine key drivers to attract FDI and increase competitiveness of investment and overall macroeconomic environment. Through examination of investment environments, this paper aims to determine policies and measures that can be applicable for Croatia and observed ex-communist countries to increase competitiveness and attractiveness of investment and macroeconomic environment. This key policies and measures should enhance economic growth of these countries and faster level of integration into global economy. The methodology is based on a system GMM estimator for dynamic panel data models on a sample covering up twenty two countries. Main results confirm correlation of economic growth, taxation and institutional efficiency on FDI stock in host country. Analysis and results of the model and research are providing recommendations to attract more foreign direct investments and enhance economic growth. Contribution of this research is determination of key drivers of FDI and providing policies and measures for increasing competitiveness of investment and overall macroeconomic environment in Croatia and observed ex-communist countries.

Key words*: FDI, competitiveness, attractiveness, Croatia, ex-communist countries.*

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1. Introduction

FDI is one of most important growth determinants of national economies and was very important in convergence process of ex-communist countries. Positive impacts of FDI on host company are: increase of export competitiveness, employment, competition, consumption, state budget revenues and GDP, modernization of production equipment, transfer of new technologies and knowledge, improving corporative culture, integration of the country into global economy and trade flows. One of the most important effects is that FDI raises standard of living. New workplaces increase wage levels and it has spillover effects because higher level of consumption increases GDP and budget revenues through taxation. Lehnen, Benmamoun and Thao (2013) concluded that FDI has significantly positive impact on overall welfare in some country. Welfare included: standard of living, education and life expectancy. Due to variety of positive impacts countries are trying to create positive macroeconomic environment to attract FDI. Economic growth is one of key tasks of each government because it ensures macroeconomic stability. Macroeconomic stability was and still is one of key issues of ex-communist countries during their transition processes. FDI is a source of enhancing this process and ensuring economic growth. Globalization as the process that connects the world politicaly, economically, socially and culturally enhanced liberalization of the international trade and technology transfer from developed to developing, transition and emerging economies. Cappello and Peruca (2015) concluded that important determinants of economic growth are openess to globalization, level of education and patents. Openess to globalization is measured through linkages with the world and inclusion in world trade flows. Gurgul and Lach (2014) emphasized importance of economical and social globalization on economic growth of ex-communist countries. Economic globalization is expressed through capital flows, labour and trade restrictions that include taxes and barriers to trade. Social globalization includes information flows, cultural proximity and personal contacts.

FDI is one of key determinants of globalization, economic growth and technology transfer. Multinational companies are drivers of globalization because through FDI and business operations they impact on higher level of global connectivity on all levels. It is important to determine what impacts the decision of investment location. Galović (2017) noted that multinational companies represent most influential economical entities of modern age. They preffer market oriented business activities, while main factors for investment location decision are: economic growth, demand, market structure that enhances competition, fosters investment and creates encouraging macroeconomic environment. Limitation factors for investment decision is any kind of protectionism, economic crisis, financial instabilities and changes in investment climate.

Popescu (2014) emphasized that the role of FDI as a compound collection of capital stocks, know-how and technology is a growth-enhancing component in Central and Eastern European (CEE) countries. It is vital determinant that encourages sustained economic growth. FDI reinforces insufficient domestic funds to finance both ownership alteration and capital composition. It may be a natural component of the catching-up process of these countries and related to macro-financial exposures that intensified the boom-bust cycle in the CEE nations. FDI has more significant impact in Balkan countries then in CEE countries. But, FDI has an essential function in improvement and structural restoration of these economies. Galović, Bezić and Mišević (2018) concluded that FDI can provide income, capital, technology, expertise, and market access. Pan Long (1994) noted that FDI and growth rate are interdependent because higher growth rate attracts FDI, which fosters higher growth rate. Hlavacek and Bal-Domanska (2016) concluded that FDI positively affects economic growth of CEE economies. Problem of all these economies was that they didn`t have adequate resources and technological levels, so their growth was therefore conditioned by major foreign investment. They emphasize that FDI was major source to overcome consequences of economic crisis in period 2009–2012. They confirmed that increasing of FDI stock by 1% caused economic growth of 0,36%. FDI was a

major source of external economic confidence in stability and development of their economy. Stanišić (2008) concluded that FDI has positive impact on economic growth of Southeastern European (SEE) economies. Reasons why he couldn`t find statistically significant evidences for it is because these countries were in transition process and positive effects of FDI couldn`t be visible in that period. FDI is recognized as most important channel of technology transfer. He found strong evidence that FDI improves productivity of domestic companies.

Aims of this research are to determine key drivers that attract FDI and increase competitiveness of investment environment. Based on this, another aim is to suggest key policies and measures for ex-communist countries to increase competitiveness of its investment environment. Countries included in the model are: Croatia, Romania, Bulgaria, Estonia, Lithuania, Latvia, Slovenia, Hungary, Czech Republic, Slovakia, Poland, Serbia, North Macedonia, Montenegro, Bosnia and Herzegovina, Albania, Ukraine, Belarus, Moldova, Georgia, Armenia, Azerbeijan. Main hypothesis of this research are:

1) Ex-communist countries should increase their efforts in creating attractive macroeconomic and investment environment.
2) Efforts should be directed to investment climate and enhancing economic growth.

Section 2 includes literature overview. Section 3 is related to data and methodology. In section 4 is intepretation of results and discusssion. Section 5 provides concluding remarks.

2. Literature overview

In order to become more competitive and to encourage economic growth, countries compete to attract FDI. One of most important question is how a country can increase attractivenes of its investment environment and what will be the effects of FDI. Borensztein, De Gregorio and Lee (1995) concluded that FDI is most important driver of technology transfer to developing economies and strongly positively correlated with economic growth and income growth rate. Moura and Forte (2013) concluded that despite certain negative effects, FDI mainly has positive effects on economic growth. FDI impacts economic growth through transfer of new technologies and know-how, formation of human resources, integration into the global economy, increased competition that causes higher productivity level and firms development and restructuring. They confirmed how FDI and attractiveness of domestic environment depend about: human capital, degree of economic openess, economic and technological conditions, legislation and political stability.

Popescu (2014) emphasized that trade openess and trade liberalization are among most important sources of FDI in transition economies in Central and Eastern Europe. FDI to the Balkans is determined by geographical and institutional circumstances. The overall macroeconomic, financial and institutional condition of the host country is a significant driver of FDI inflows. Pan-Long (2014) concluded that trade openess and higher growth rate can attract more FDI, which fosters higher growth rate and there is an interdependence of this variables.

Deichmann et al. (2003) examined impact of FDI in Czech Republic, Poland, Hungary, Slovakia, Croatia, Slovenia, Serbia, North Macedonia, Bosnia and Herzegovina, Albania, Romania, Bulgaria, Moldova, Latvia, Lithuania, Estonia, Russia, Belarus, Ukraine, Azerbeijan, Armenia, Georgia, Kazakhstan, Kyrgsztan, Uzbekistan, Tajikistan and Turkmenistan. They concluded that FDI has been instrumental in accelerating the Schumpeterian "creative destruction" of old structures in these markets. FDI played critical role in transferring technological, marketing and management know-how, increasing employment, the international competitiveness of the host countries and facilitated their access to world markets. Except geographic location, important determinants of FDI were economic policies that encourage FDI and they are related to economic development, infrastructure, macroeconomic stability and reforms. Dritsaki and Stiakakis (2014) concluded how export and domestic capital

investments had more positive impact on economic growth while FDI didn`t have expected impact on economic growth of Croatia, but reasons are government policies. They recommended to Croatian government to increase efforts in creating better macroeconomic environment for FDI so Croatian economy can benefit from positive effects of FDI. Jovančević (2007) noted how countries of New Europe were benefiting from their integration with the European single market, by opening up new trade and investment opportunities and anchoring macroeconomic and institutional reforms. But their economic growth can`t be explained by level of FDI total inflows. It is more result of economic policies and enterpreneurship existence in these countries. One of the most important determinant to attract FDI and economic growth was declining taxation level, especially corporate taxes. Motivational factors for FDI are general investment climate, perception of political and country risks, effective legal system and judiciary, stability and consistency in government policy. She concluded that unpredictability of economic policies, high tax burden, government`s ability to implement structural reforms, change of laws, and restrictive policies towards FDI were main barriers. Main conclusion of her research is that there were significant inflows of FDI in New Europe countries and result of that was economic growth, but it is correlated with above mentioned motivational factors. Ginevičius and Šimelite (2011) claimed that tax deduction is considered as most important FDI determinant. As a reason why CEE economies received large amount of FDI, they emphasized liberalizing trade and opening economies. They concluded that trade openess is most important driver of FDI in CEEs, while political stability was important driver of economic growth. Mehić, Silajdžić and Babić-Hodović (2013) claimed that FDI has positive impact on economic growth and provided empirical evidence about spillover effects: diffusion of technology, educational attainment, stimulating domestic investment, increasing human capital level, improving institutional environment of host country. They examined an impact of FDI on economic growth of SEE countries. Based on panel data they concluded that FDI and trade openess had positive impact on economic growth of all SEE countries, much more then domestic investments. They emphasized that FDI affects economic growth and higher economic growth rates attract FDI. In order to attract FDI governments have to develop agenda to create positive investment environment by removing legal and regulatory barriers, invest in physical infrastructure and industry zones. Kersan Škabić (2014) concluded that most important determinants to attract FDI in SEE countries are: GDP per capita, market size, growth rates and wages, while lowering taxes didn`t have significant impact. But, she reffered to Hasset and Hubbard (1996) and Mintz (2006) which emphasized that tax regimes are very important determinant to attract FDI, especially in developing countries. Aizeman and Spiegel (2006) reffered to different authors and found significantly positive relationship between institutional efficiency and FDI. Bayraktar (2013) examined effects of Ease of Doing Business that represents investment climate through institutional efficiency on FDI. He concluded that economic growth and Doing Business indicators positively affect FDI, but it doesn`t have to be always the case. For Doing Business indicators more significant correlation is presented in developing economies. Improvements in Doing Business indicators can be one of important factors helping to attract FDI to developing countries.

As it is previously emphasized, FDI represents one of the most important growth determinants of each economy, especially developing, transition or emerging markets. FDI have certain negative effects like: possibility of human rights violations, environmental damages, destruction of small local businesess, potential economic problems. Vissak and Roolaht (2005) claimed that FDI tends to be unstable and difficult to forecast. Annual inflows of reinvested earnings are equally volatile. The irregularities of FDI inflows can destabilize a country's economic development and complicate the application of economic policy instruments. It is especially related to small countries. They reffered to Estonian economy. Some potential problems they emphasized are: possible withdrawal of investments, uneven regional development, fiscal and balance of payments deficits, cultural conflicts, increased unemployment, country`s dependence of foreign technologies and possible influence of

multinational companies influence on domestic government. But, they concluded that FDI had a lot of positive effects on this economies. Tiits (2007) reffered to role of FDI in Estonia. He noted that in process of developing the knowledge-based economy, most small countries are, in comparison with larger countries, under dual pressure. On the one hand, limited resources and the increasing complexity of new technologies prevent small countries from developing R&D infrastructure of sufficient strength. At the same time, due to smaller-scale production and relatively higher current transaction costs, smaller countries have difficulties in competing in low-tech and mid-tech segments of the world market which are increasingly dominated by Asian tigers with their scale and cost advantages, and relative technological strength. FDI is considered as very important growth driver in Estonia and small countries. That is why he concluded that Estonia should start implementing more proactive foreign investment strategy, paying special attention to attracting ICT, biotechnology and nanotechnology related investments. FDI is one of the main growth determinants in Estonia. Hlavacek and Bal Domanska (2016) concluded that FDI had positive effects on economic growth of Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia. Hubner (2011) noted that FDI even though, it didn`t reach its full potential was one of most important drivers of economic boom in Azerbeijan. Lee and Tcha (2004) analyzed economic growth of Central and Eastern European economies, Baltic countries and Commonwealth of Independent States. They confirmed that FDI contributed more to economic growth then domestic investments. During initial phase of transformation these countries faced with problem of output declining. FDI was a vehicle to transfer technology and managerial skills and contributed to economic and TFP growth. Campos and Kinoshita (2002) examined impact of FDI on 25 Central and Eastern European and former Soviet Union transition countries between 1990 and 1998. Their main finding was that, in this more appropriate setting, FDI had a positive and significant impact on economic growth as theory predicts.

There are certain determinants that attract FDI in ex-communist countries. Carstensen and Toubal (2003) concluded that main determinants are: low labour costs, market size, differences in GDP per capita, specific financial and fiscal advantages such as the existence of favourable investment and tax regimes, corporate tax rates, method of privatisation, quality of business environment and overall political climate. Jovanović and Jovanović (2017) examined impact of Doing Business indicators on FDI in 27 ex-communist countries. Their analyisis confirmed that there are impacts, but due to insignificance of certain elements it can`t be precisely said that Doing Business indicators affect FDI. Investors are discouraged by bureaucracy. Significant factors were costs of: registering property, construction permit and starting a business. They included taxation and confirmed that there is significantly negative correlation between taxation and FDI. Havrylshin, Meng and Tupy (2016) analyizing 25 ex-communist countries concluded that countries who liberalized and deregulated their economies reached highest level of institutional development and were most successfull in transition process and had attracted more FDI. Bellach, Leibrecht and Damijan (2009) examined eight Central and Eastern European countries. They emphasized that lower taxation and improves in ICT, telecom and electricity infrastructure positively affects FDI.

3. Data and methodology

To examine factors that affect FDI in ex-communist countries, used methodology is GMM two step estimations dynamic panel with asymptotic standard errors function. Judson and Owen (1996) noted that use of panel data in estimating common relationships across countries is particularly appropriate because it allows the identification of country-specific effects that control missing or unobserved variables. Baum and Schaffer (2003) noted that usual approach today when facing heteroskedasticity of unknown form is to use the GMM. It makes use of the orthogonality conditions to allow for efficient estimation in the presence of heteroskedasticity of unknown form. Kiviet, Pleus and Polderman (2017) emphasized that reputation of GMM is

based on its claimed flexibility, generality, ease of use, robustness and efficiency. Widely available standard software enables to estimate models including exogenous, predetermined and endogenous regressors consistently, while allowing for semiparametric approaches regarding the presence of heteroskedasticity and the type of distribution of the disturbances. It is often used when time-series dimension of the sample is not too small.

Two types of dynamic estimators were constructed while using GMM methods: differentiated GMM estimator (Arellano – Bond 1991) and system GMM estimator (Arellano – Bover 1995; Blundell – Bond 1998). Galović and Bezić (2019) in their analysis reffered to Rodman (2009) who claimed that differentiated and system GMM estimators have been created for dynamic panel analysis and have certain assumptions on data generating process, such as:

a) there is a possibility of autonomously distributed individual time-invariant effects,
b) such a situation is contrary to the temporal regression model,
c) some of the regressors can be endogenous,
d) the occurrence must be dynamic in nature, with the realisation of the current dependent variable that is influenced by the variable from former periods,
e) idiosyncratic disorders (except for time-invariant effects) have specific forms of heteroscedasticity, autocorrelation, and
f) idiosyncratic disorders are uncorrelated between individual variables

This paper examines determinants of FDI in 22 ex-communist Central and Eastern Europe and Caucasus countries in period 2013–2018. Countries included in the model are: Croatia, Romania, Bulgaria, Estonia, Lithuania, Latvia, Slovenia, Czech Republic, Slovakia, Hungary, Poland, Serbia, Montenegro, North Macedonia, Bosnia and Herzegovina, Albania, Moldova, Ukraine, Belarus, Georgia, Armenia and Azerbeijan. Model is based on 110 observations.

The dynamic model with a single time-shifted (lagged) variable can be shown by the following equation (1):

$y_{it} = \beta y_{it-1} + u_i + v_{it}, |\beta| < 1$

Where y_{it} represents the value of the dependent variable in period t; y_{t-1} is marked as dependent variable with a shift (lag) for one period from t; u_i indicates individual time-invariant effects, and v_{it} represents the random error. Individual impacts are treated as stochastic. Further assumption that is crucial for the consistency of the model are errors v_{it} which are serially uncorrelated. Individual time-invariant effects are primarily associated with the former impact of the dependent variable of the model, which points to the above-mentioned problem of endogenity.

4. Results and discussion

GMM two step estimator based dynamic panel model is constructed:

$LNForeignd_{it} = \beta_0 + \beta_1 LNForeignd(-1)_{it} + \beta_2 LNDealingwithc\sim_{it} + \beta_3 LNStartingabus\sim_{it} + \beta_4 Corporatetax_{it} + \beta_5 GDPgrowthannual_{it} + \beta_6 LNTimerequired\sim_{it} + \beta_7 LNTimerequiredp\sim_{it}$

$$+ \sum_{t=2015}^{2018} year_t + u_{it} + v_{it}$$

Detailed results of the system two step GMM estimator based dynamic can be found in the table A1 that can be found in appendix.

Table 1: Results of the Dynamic Panel of System GMM Estimator

INDEPENDENT VARIABLE	VALUE
Lagged dependent variable *LNForeignd(-1)*	0,9839***
const	0,7395***
LNDealingwithc~	−0,0621***
LNStartingabus~	−0,0144

INDEPENDENT VARIABLE	VALUE
Corporatetax	−0,0002
GDPgrowthannual	0,0043***
LNTimerequired~	−0,0578***
LNTimerequiredp~	0,0176**
T3	0,0186*
T4	0,0876***
T5	0,2127***
T6	0,0788***
MODEL DIAGNOSTICTS	
Number of observations	110
Number of instruments	25
Wald test	66978,4
Prob>chi2	0,0000
Sargantest	11,5847
Prob>chi2	0,5620
Arellano-Bond test for AR(1) in the first differences	-2,30958
Prob>chi2	0,0209
Arellano-Bond test for AR(2) in the first differences	-1,04692
Prob>chi2	0,2951

Note: P-values are represented with labels ***, which indicate the level up to 1% significance, and labels **, which indicate the level up to 5% significance. P-values were obtained by calculating the two-step dynamic procedure.

Source: Author`s calculation

LNForeignd is used as a dependent variable and a proxy for this is FDI stock inward and outward on annual level. The data is taken from database UNCTAD (2020). FDI stocks measure the total level of direct investment at a given point in time, usually the end of a quarter or of a year. As independent variables were used: FDI stock from previous years, institutional efficiency, economic growth and taxation. *LNForeignd(-1)* is used as a proxy for FDI stock inward and outward from previous years. Model includes natural logarythm of FDI stock inward and outward. Values are denominated at current prices in USD. It represents the state of inward and outward foreign direct investment stock respectively in the previous year and, simultaneously, the time-shifted variable. UNCTAD (2020) defines three components of FDI: equity capital, reinvested earnings and intra-company loans. FDI stock is the value of the share of their capital and reserves (including retained profits) attributable to the parent enterprise, plus the net indebtedness of affiliates to the parent enterprise. Doing Business indicators like time needed to get construction permits (*LNDealingwithc~*) and time needed to start a business (*LNStartingabus~*), time required to register property (*LNTimerequiredp~*), time required to get electricity (*LNTimerequired~*) measured in days are taken as proxies for institutional efficiency and investment climate. For all these variables model includes their natural logarythm. World Bank (2020) defines all these indicators. Dealing with construction permits is defined as the time captures the median duration that property lawyers, notaries or registry officials indicate is necessary to complete a procedure. It is calculated in calendar days. Starting a business captures the median duration that business incorporation experts indicate is necessary for five male or female married entrepreneurs to complete all procedures required to start and operate a business with minimum follow-up and no extra payments. It is calculated in calendar days. Time required to get electricity is the number of days needed to obtain a permanent electricity connection. The measure captures the median duration that the electricity utility and experts indicate is necessary in practice, rather than required by law, to complete a procedure. Time required to register property is the number of calendar days needed for businesses to secure rights to property. Data and definitions are taken from World Bank (2020)

database. Corporate tax rate is taken as a proxy for taxation and data is collected through KPMG database. As a proxy for economic growth is taken annual GDP growth rate and data is collected through World Bank database (2020). Stars in the last column of table show significance.

There is an evident significant impact of FDI stock from previous years, time needed to get construction permits, GDP growth annual, time required to get electricity and register property. If value of FDI stock from previous year increases for 1%, value of FDI stock in current year will increase for 0,9839%. If time measured in days needed to get construction permit decreases for 1%, value of FDI stock will increase for 0,062%, and if time needed to get electricity measured in days, decreses for 1%, FDI stock values will increase for 0,0578%. If GDP annual growth rate increases for 1%, value od FDI stock will increase for 0,0043%. Results for GDP annual growth, time needed to get electricity and construction permit are confirmed with 1% significance.

Corporate tax and time needed to start a business measured in days are not stastically significant. If time needed to start a business measured in days decreases for 1%, value of FDI stock will increase for 0,014% and if corporate tax rate decreases for 1%, value of FDI stock will increase for 0,0002%.

Only indicator with unexpected result is days required to register property because it is statistically significant if number of days required to register property increases for 1%, value of FDI stock will increase for 0,017%. Relevant literature can explain such results about effects of Doing Business on FDI. Eifert (2009) examined impact of Doing Business on investment and economic growth. In his research days required to register property and time to export show unexpected result like in this paper what meant that in case days required to register property and time to export increases, FDI value in these countries will increase. He concluded that increasing in investment rates was not related only with the fact if country is well or poor governed. Hossain et al. (2018) examined drivers of FDI in 177 countries from World Bank database, including countries observed in this model. After regression analysis their results opposed to relevant literature. They concluded that FDI in countries increases when indicators registering property and getting credit have lower score, what means that they require bigger number of procedures, days and higher costs of registering property. Jayasurya (2011) explains why such results happen. It is because Doing Business ranking, which represents the formal time and costs involved with fully complying with regulations, may not necessarily translate to the actual experiences of a wide range of firms. Other reason is because observed countries are not homogeneus.

Bellos and Subasat (2009) analyzed transition countries and concluded how poor governance that included bureaucratic quality is correlated with high levels of FDI stock. They explained that reasons for such result are differences of the countries in other determinants that attract FDI like inflation, geographical proximity to other markets, trade openess. Based on results of reffered papers and this one, it can be concluded that effects of Doing Business indicators on value of FDI differ from country to country. In this research observed countries are not homogeneus and that is one of the reasons why certain indicator shows unexpected results. Another reason is importance of other determinants like geographical proximity, market potential, structure of investments, taxation. Unexpected signs of independent variables are not something unusual in researches. Helmy (2013) confirms possibility of unexpected results. He analyzed with two step GMM estimator based dynamic panel 21 countries of Middle East and North Africa (MENA) in period 2003–2009 and concluded there is positive correlation among corruption and FDI.

Model diagnostic doesn`t show autocorellation of second order. Arellano-Bond test is used to examine the existence of autocorrelation of the first (AR1) and the second order of errors (AR2) in the first differences of the equation. The results of Arellano-Bond (2) tests do not indicate

the presence of the second-order autocorrelation due to 0.29 coefficient, which is higher than the allowable limit of 0.05.

The resulting value (Prob>chi2) of the Sargan test amounts to 0.562, which is higher than 0.05. It means that model is satisfactory and precise. The results of the Wald test indicate a sufficient explanatory power of the variables of the model, which is confirmed by the respective significance of the test. The synthesis of the diagnostics results leads to the conclusion that the model is specified in the appropriate manner.

5. Concluding remarks

Regarding relevant literature and databases topic about determinants of FDI in ex-communist countries, especially for period 2013 – 2018 is understudied. Clausing and Dorobantu (2005) confirm in their paper that there is relatively few number of papers that examined determinants of FDI in CEE. Expanding research scope about determinants of FDI in observed countries is one contribution of this paper. Main objective of this paper was to examine determinants of FDI in 22 ex-communist countries in Central and Eastern Europe and Caucasus and to determine policies and measures to improve investment climate in these countries. Results of econometric model confirmed strong correlation of GDP growth and institutional efficiency with values of FDI stock in these countries. Decreasing tax rates and bureaucracy impacts positively on increasing of FDI stock values in these economies with exception of days needed to register property. Main contribution of this paper is determining key factors to attract FDI and increase competitiveness of macroeconomic environment of ex-communist countries.

It is important for ex-communist economies to continue with increasing efforts in creating encouraging macroeconomic environment to attract more FDI. One of main determinants is economic growth. Observed countries need to increase efforts in decreasing bureaucracy to ensure proper infrastructure for foreign investors. Positive correlation of time required to get construction permit and electricity confirmed importance of ensuring infrastructure to foreign investors. Infrastructure regarding relevant literature plays key role in attracting FDI not only in observed countries, but also in other developing, emerging and transition countries. Key reforms should be focused in declining time to get construction permit, electricity and starting a business. Declining number of days can be done through decreasing number of procedures. Investors will be attracted if days required to get construction permit, electricity and start a business decline, and also if corporate tax rates decline. About impacts of taxation on economic growth it is hard to determine is it significant or not. Corporate tax rates directly affect business costs and companies are looking for the locations where business costs are lower. Matić and Marić (2016) recommend reforms to ensure economic growth and attract more FDI. They noted example of Slovakia and its flat tax rate and how it is important to decrease taxation level. They concluded it is important to increase level of economic freedom and that Doing Business indicators are important determinants to attract FDI and increase growth rate.

Used econometric model confirmed main hypothesis that ex-communist countries should increase their efforts in creating encouraging investment and macroeconomic environment. Another hypothesis is that efforts should be directed to investment climate and enhancing economic growth focused, is confirmed because all variables are part of investment climate, especially Doing Business indicators. Statistically significant impact of GDP growth and correlation among determinants of economic growth and FDI from relevant literature confirm that policies and measures should be directed to enhance economic growth. Based on this and all previous researches, it can be concluded that ex-communist countries should be included in world trade and investment flows. That will ensure their economic growth. Policymakers should focus on creating economic policies which decrease bureaucracy and taxation level. That will ensure removing barriers for foreign investors. These countries already implemented

different reforms in order to free their economy and increase level of Ease of Doing Business and attract investors, but these efforts should be continued.

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Appendix 1:

Model 5: 2-step dynamic panel, using 110 observations
Model 5: 2-step dynamic panel, using 110 observations
Included 22 cross-sectional units
Including equations in levels
H-matrix as per Ox/DPD
Dependent variable: LNForeigndirectinvestmentn
Asymptotic standard errors

	Coefficient	*Std. Error*	*z*	*p-value*	
LNForeignd(-1)	0,983973	0,0239931	41,01	<0,0001	***
const	0,739575	0,0838054	8,825	<0,0001	***
LNDealingwithc~	−0,0621466	0,0120125	−5,173	<0,0001	***
LNStartingabus~	−0,0144476	0,0158005	−0,9144	0,3605	
Corporatetax	−0,000261865	0,00364382	−0,07187	0,9427	
GDPgrowthannual	0,00436546	0,000992353	4,399	<0,0001	***
LNTimerequired~	−0,0578529	0,0171497	−3,373	0,0007	***
LNTimerequiredp~	0,0176100	0,00742937	2,370	0,0178	**
T3	0,0186521	0,0103402	1,804	0,0713	*
T4	0,0876682	0,0106559	8,227	<0,0001	***
T5	0,212723	0,0140900	15,10	<0,0001	***
T6	0,0788848	0,0143385	5,502	<0,0001	***

Sum squared residuals   0,506086   S.E. of regression   0,071862

Number of instruments = 25
Test for AR(1) errors: z = -2,30958 [0,0209]
Test for AR(2) errors: z = -1,04692 [0,2951]
Sargan over-identification test: Chi-square(13) = 11,5847 [0,5620]
Wald (joint) test: Chi-square(7) = 66978,4 [0,0000]
Wald (time dummies): Chi-square(4) = 380,247 [0,0000]

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CHALLENGES OF BUILDING EFFICIENT REGIONAL INNOVATION SYSTEMS

ABSTRACT

Rapid globalization has drastically changed the competitive environment and the role of regions. To be competitive in a global knowledge economy, regions should establish a supportive environment for innovation and enable entrepreneurs to compete, on both markets – domestic and foreign ones and to sustain economic growth. It is already recognized that important elements of the process of innovation become regionalized and consequently there is a trend of increasing regionalism in innovation policies which is associated with a number of problems, particularly ones related to potential conflicts between national and regional objectives. Also, regional innovation systems are considered as means of regional development. This approach emphasizes the system and focuses on network and linkage effects in a region, instead of the role of independent actors and activities. The interactions among the actors involved in research, development and innovation are as important as investments in research and development and crucial in translating inputs into outputs. However, the concept of regional innovation systems is relatively new at the policy level and there is a clear need for support in the design of regional innovation systems and policies. This paper examines general issues on the formation of regional innovation systems, summarizes relevant ideas and arguments of issues on national and regional innovation systems and examples of best practices from the European Union to provide a basis for policy and institutional design of efficient regional innovation systems. Understanding regional innovation systems can help policymakers develop approaches for enhancing innovative performance in the knowledge-based regions of today.

Key words: *innovations, regions, European Union.*

1. Introduction

The national innovation system became an important part of national industrial policies (Lundvall, 1992; Lim, 2006) since innovation has become a crucial factor of development and competitiveness (Buesa et al., 2010; D'Allura et al., 2012; Őnday, 2016; Aragón Amonarriz et al., 2019). However, innovation context differs substantially, not only between different countries, but also between regions within a single country (Tödtling et al., 2012).

Rapid globalization has drastically changed the competitive environment and the role of regions. It is regions that are competing with each other in the global economy (OECD, 2013) and therefore emphasis is put on the regional dimension of innovation (Ponsiglione et al., 2018). Annoni and Dijkstra (2019) define regional competitiveness as the ability of a region to offer an attractive and sustainable environment for firms and residents to live in and work.

There is a trend of increasing regionalisation of innovation policies which brings new and different challenges to innovation systems that weren't present there before. Regional

innovation systems have an important role in economic development policy (United Nations Industrial Development Organization, 2003). This is the reason why knowledge and understanding of these challenges is necessary. Partly, regional innovation systems as a concept became so popular due to the increased international competition (Doloreux and Parto, 2004). Regional innovation systems are considered to be a new model for regional development (Lim, 2006). These systems impact innovation at a regional level, hence the level of competitiveness of a region (Önday, 2016). Consequently, over the past two decades, studies regarding regional innovation systems have gained increased attention (D'Allura et al., 2012).

In defining regional innovation systems, one should start with the definition of the "region". The most commonly used criteria in the definition of a region are: determinate size; homogeneous in terms of specific criteria; it can be distinguished from bordering areas by its features and internal cohesion (United Nations Industrial Development Organization, 2003). The concept of innovation is related to the analysis of processes of technological change which consist of three stages: invention, innovation and diffusion (United Nations Industrial Development Organization, 2003). Innovations are considered to be the result of a complex set of relationships among actors producing, distributing and applying various kinds of knowledge (OECD, 1997). It is considered that regional innovation system consists of six sectors: (1) business sector (SMEs and large companies); (2) state sector (the bodies of national and regional executive authority administering activity in support of innovation); (3) scientific-research sector; (4) sector for technology transfer and mediation (techno parks, business incubators, clusters, etc.); (5) public sector (civil society) and (6) partner sector (foreign partners in innovation activity) (Lyasnikov et al., 2014). In order to make a successful regional innovation system, region should map all the stakeholders and create an appropriate framework for coordination and agenda (Technopolicy Network, 2007).

There is a growing relevance of the topic of regional innovation systems and literature relating to it proliferated in the last decade, introducing different definitions of a regional innovation system (Runiewicz-Wardyn, 2009; Pino and Ortega, 2018).

An innovation system can be defined as a system that involves a number of different actors and their interactions (OECD, 2015). The structure of stakeholders and system elements differs between countries and over time, which proves that such a system is a dynamic category. Lack of collaboration and connectivity between system participants, inconsistency of basic public sector and applied research in industry, malfunctioning of institutions in charge of diffusion of technology and information, and lack of absorption capacity of enterprises can contribute to the inefficient functioning of the innovation system and, consequently, a country's low innovation rate (Bilas and Franc, 2017). An effective national innovation system is most commonly defined as a network of private and public sector institutions and organizations that interact to initiate, import, modify and disseminate innovation (Lundvall, 2005).

A regional innovation system is a set of institutions that (jointly and individually) contribute to the development and diffusion of new technologies (Metcalfe, 1995; Technopolicy Network, 2007). Regional innovation systems are usually understood as a set of relationships among private and public interests, formal institutions and other organizations with the purpose of generation, use and dissemination of knowledge (Doloreux, 2003; Doloreux and Parto, 2004). Lim (2006) defines regional innovation system as a system stimulating innovation capabilities of firms in a region in order to facilitate the region's growth potential and regional competitiveness. A regional approach to an innovation system usually involves a region within a country and observing the links between technology, innovation and industrial location (D'Allura and Mocciaro, 2012). A regional approach to the innovation system was developed

by experts in the field of economic geography who sought to explain the role of institutions and organizations in the regional concentration of innovative activities (Asheim et al., 2003).

This paper examines general issues on the formation of regional innovation systems, summarizes relevant ideas and arguments of issues on national and regional innovation systems and examples of best practices from the European Union to provide basis for policy and institutional design of efficient regional innovation systems. It contributes to the literature on regional innovation systems and analysis of relationships between innovations and economic performance of particular regions.

Paper is structured into four parts. After the introduction, brief literature review is presented in the second part. Third part of the paper refers to the European Union experiences and discussion. Conclusion is presented in the fourth part of the paper.

2. Literature review

Literature review is organized around (1) the origin and features of the concept of regional innovation systems, (2) factors and barriers of successful functioning of regional innovation systems, (3) regional innovation systems governance and (4) the role of the smart specialization strategies for the regional innovation systems.

Firstly, the origin and features of the concept of regional innovation systems are discussed. The origin of the concept of regional innovation systems lies in two main directions of literature, literature on systems of innovations and literature on regional science which both increasingly recognize that important elements of the process of innovation are becoming regionalized (Doloreux and Parto, 2004). Doloreux and Parto (2004) point out some of the key features: innovation occurs in an institutional, political and social context and region is the site of innovations. They stress the role of regional clusters due to the fact that innovation occurs more easily when geographical concentration and proximity are present. Literature on innovations and knowledge spill overs, as well as regional innovation systems, stresses the role of clustering for innovation and gaining international competitiveness. Eraydin and Armatli-Köroğlu (2005) found that industrial clusters can be internationally competitive and the sources of externalities and competitiveness are defined by local conditions. Additionally, the Technopolicy Network Model contains the following main building blocks of a regional innovation system: talent; investment system; research and development (R&D); entrepreneurship facilities and organising capacity (Technopolicy Network, 2007). Talent refers to entrepreneurs, students and researchers with good ideas. Investment system refers to the presence of capital providers for start-ups. R&D refers to existence of good universities and research institutes as locations of creating knowledge. Entrepreneurship facilities refer to existence of entrepreneurial infrastructure like incubators, technological parks, etc. Organising capacity refers to the ability of coordination of activities of all stakeholders, not only to the leadership and top-bottom approach. Strong R&D base is a prerequisite for a strong regional innovation system (Technopolicy Network, 2007). Regional innovation system approach underlines the regional dimension of the production and the exploitation of new knowledge (Őnday, 2016). The increasing globalisation of innovation is forcing regions to think beyond their borders and to strengthen cooperation - so called cooperation for competition (OECD, 2013). It is considered that a strong cross-border regional innovation system can better take advantage of global networks. However, not every neighbouring region is an adequate candidate for cooperation. There are different rationales for cross-border collaboration for innovation policy (OECD, 2013): economies of scale, economies of scope, public goods and externalities, which are explained in the following text. Within the concept of economies of scale there can be different drivers, for example access to larger labor markets and knowledge networks, or more

specialised and higher quality innovation support services, etc. Within the concept of economies of scope, the main driver could be complementarity in terms of research, technology and economic base, as well as supply chain linkages. Within the concept of public goods, main driver could be sharing specialised infrastructure such as technology parks, etc., attractiveness of the area to firms through regional branding and regional identity in terms of recognising cross-border area for social capital it possesses. Within the concept of externalities, border issues for gaining positive spillovers are one of the potential rationales for cross-border cooperation. It is often pointed out that a regional innovation system is not necessarily the same as the administrative entity and that openness to cooperation is necessary (Technopolicy Network, 2007). Pino and Ortega (2018) found the question of brining the concept of sustainability to the innovation system theory a question of arising interest in the latest literature on innovation systems.

Secondly, factors and barriers of successful functioning of regional innovation systems are discussed. The world economy has become a very complex system and it is undoubtedly necessary to strengthen the human capital that has new knowledge, is constantly improving and using the latest technologies in order to maintain its global position and competitiveness. In addition, there are many factors that influence the development of an innovation system - institutions and infrastructure for innovation system development, absorption and innovation capacity, clusters of innovative enterprises and innovation networks (Bilas and Franc, 2017). Koschatzky and Kroll (2009) argue that regionalisation of innovation policies is related to problems of multi-actors and multi-levels of governance of innovation at regional level, but believe regional governments can succeed in relating scientific and business sectors in order to achieve set goals. They also point out, besides the autonomous decision making, need for necessary financial resources to pursue promotional measures as one of the key factors for successful regional innovation systems. Cooke et al. (1998) found that strong governance is important, but not sufficient condition for functioning regional innovation systems. United Nations Industrial Development Organization (2003) advocates a combination of public and private governance at a regional level to promote systemic innovation. It points out there are issues related to regional innovation systems: (1) limited budgets and responsibilities of regional governments which leads to not using all available innovation policy instruments, (2) limited experience and best practice experiences and (3) insufficient knowledge on innovation needs of the business sector. Ponsiglione et al. (2018) advocate an agent-based model to support the development of self-sustaining regional innovation systems. They identified the following key factors that influence regional innovation performance: exploration capacity, propensity to cooperation and competencies of actors. Accordingly, policy measures should incentivize investments in research and development activities, support public-private partnerships, enhance university systems and increase the number of researchers employed. At the regional level, it is explained that the innovation capacity of enterprises is influenced by two factors (Camagni and Cappello, 1997). The first factor is the regional agglomeration, which facilitates a collective learning process which then ensures better diffusion of information, knowledge and best practices. Another factor is localized manufacturing systems that help reduce the costs and risks associated with innovation by being distributed across the region through the operation of customer and supplier networks, technology transfer agencies, trade associations and the like. It is therefore clear that the institutional environment influences the development of innovation through three basic functions: reducing uncertainty by providing information, conflict management and cooperation and providing incentives (Edquist, 1997). Furthermore, Holl and Rama (2007) found that network-based policies may contribute to increased levels of innovation in regions. According to Tsipouri (2019) regions need to ensure the basic infrastructure, invest in digital education and create synergies. Fritsch and Slavtchev (2007) found inverse "U" relationship between sectoral specialization and the performance of regional innovation system which indicates that if a certain level of

specialisation is achieved, further concentration in respective industry is not favourable for the regional innovation system. There is a growing awareness of the heterogeneity of key factors, mechanisms and actors relevant for a successful functioning of regional innovation systems in various regions (Tödtling et al., 2012). European Commission (2006) introduced constructing regional advantage (CRA) concept, taking into account this awareness of the heterogeneity. CRA provides a strategic framework for regional innovation policies in less developed regions. It is constructed under the assumption that regions are proper areas for creating innovations. Also, key components of CRA are innovation, talent formation and attraction, and entrepreneurship (European Commission, 2006). Literature defined different gaps that limit the efficiency and effectiveness of regional innovation systems: managerial gaps, structural holes, innovation gaps and valleys of death (Aragón Amonarriz et al., 2019). Managerial gaps refer to a lack of SME managerial capabilities, while structural holes refer to a lack of inter-firm cooperation toward innovation. Innovation gaps occur when there is no effective technology transfer mechanisms and valleys of death refer to difficult commercialisation, or the lack of connection between policy and financial agents (Aragón Amonarriz et al., 2019).

Thirdly, on the issue of governance, Adeyeye et al. (2018) found that barriers which affect innovative performance are both exogenous and endogenous to the firms. Exogenous barriers include regulatory constraints and lack of infrastructure, and these are the issues which require policy actions.

Finally, the need to strengthen competitiveness also imposes the need for development strategies with a focus on building sustainable strengths based on unique resources, capabilities and skills, understanding and following technological and market trends (Aranguren and Wilson, 2013). Njøs and Fosse (2018) examined whether policies should be targeted towards the organizations in regional innovation system (the actor level) or the support structure (the system level) and found that learning outcomes were linked to the a priori experiences with innovation and R&D at both levels. Related to the need to develop regional strategies, the concept of smart specialization has evolved which includes vertical measures and targeted policies that identify and select areas desirable for intervention. It is precisely the focus on vertical measures and the selection of priorities that should result in the effects of specialization and is a key change over previous strategies for fostering innovation (Foray and Goenega, 2013). Smart specialization has a strong regional dimension. Regions are increasingly important as a source of innovation activities, and innovation policies are drawn up at the level of regions, taking into account the strengthening effects of an agglomeration economy. Smart specialization offers opportunities for economic transformation of regions based on strategies that link action to goals (OECD, 2013): to ensure differentiation and a unique market position based on resources and available capacities; ensure the differentiation and unique position of the activities and conditions offered by the region; link economic goals to social and environmental challenges; enable experimentation, creativity and rapid adaptation of strategies to changing conditions and ensure commitment and involvement of all participants.

3. Overview of the European Union experience and discussion

Innovation has been recognized as a key factor for the EU development (Hajek and Henriques, 2017). For creating and implementing policy mix to support innovations, regional innovation performance serves as an important indicator. Similarly, Buesa et al. (2010) claim innovatory capacity is a critical factor for the European Union's economic growth. They found that innovative firms and the environment in which they are situated are determinants of regional innovation in the European Union.

Cooke (1992) concluded long ago that there is no other choice for Europe but to meet new imperatives of competition. Still, Europe is finding its way to compete. The fact that economic disparities between European regions are significant (Tsipouri, 2019) makes it more difficult.

Framework analysis on the concept of regional innovation systems consists of two different sets of analysis: (1) comparative analysis of various regions with the purpose to define desirable criteria for successful regional innovation systems and (2) analysis of individual regional innovation systems to identify unique characteristics of each regional innovation system context to see whether there is a possibility to generalize dynamics of successful regional innovation systems (Doloreux and Parto, 2004).

The European Union has implemented regional innovation system programs for many regions (Lim, 2006).

Navarro et al. (2008) differ regions according to their level of economic and technological development, as well as, sectoral specialisation. From that point of view, they identified seven types of regional innovation system for the 186 regions of the EU25 countries: (1) restructuring industrial regions with strong weaknesses; (2) regions with a weak economic and technological performance; (3) regions with average economic and technological performance; (4) advanced regions, with a certain industrial specialisation; (5) innovative regions, with a high level of economic and technological development; (6) capital-regions, with a certain specialisation in high value-added services and (7) innovative capital-regions, specialised in high value-added services. They found clear differentiation between regions with a notable industrial profile and regions with a strong either agricultural or service sector, and accordingly, regions should create on different knowledge bases. Also, in order to foster the economic and technological development of less developed regions, overall increases in their productivity growth and income per capita levels may yield the best results.

Tsipouri (2019) examined innovation in less-developed EU regions with low institutional capacity and found innovation results from the combination of investments and technology institutions combined.

Full innovation potential of EU regions needs to be mobilised in order to reach Europe 2020 goals (European Commission, 2010).

There are two frameworks to measure performance of the EU regions, via Regional Competitiveness Index and via Regional Innovation Scoreboard.
Regional Competitiveness Index (RCI) 2019 measures the performance of 268 NUTS2 regions of the EU28 countries through 11 dimensions of competitiveness: (1) national and regional institutions, (2) macroeconomic stability, (3) infrastructure, (4) health, (5) basic education, (6) higher education and lifelong learning, (7) labour market efficiency, (8) market size, (9) regional and national technological readiness, (10) business sophistication and (11) innovation (Annoni and Dijkstra, 2019). Regions can use RCI to make a comparison with any other region in the EU or with the EU average. The top performer according to the RCI 2019 is the region of Stockholm, followed by London and Utrecht, and the worst regions were one region in Greece, one in Romania and the French outermost regions of Mayotte and Guyane (Annoni and Dijkstra, 2019). Table 1 presents top 5 regions and bottom 5 regions.

On the other hand, Regional Innovation Scoreboard (RIS) provides a comparative assessment of performance of innovation systems across 238 regions of 23 EU member states, Norway, Serbia, and Switzerland. Cyprus, Estonia, Latvia, Luxembourg and Malta are included at the country level, as in these countries NUTS1 and NUTS2 levels are identical to the country

territory. The RIS2019 is a regional extension of the 2019 European Innovation Scoreboard (EIS). Innovation performance is measured using the Summary Innovation Index which is a composite indicator, based on 27 indicators. These indicators are grouped into four main types and 10 innovation dimensions: (1) framework conditions (human resources; attractive research systems; innovation-friendly environment); (2) investments (finance and support, firm investments); (3) innovation activities (innovators, linkages, intellectual assets) and (4) impacts (employment impacts, sales impacts) (European Commission, 2019).

Therefore, similarly to the methodology of EIS, regions are divided into four groups: (1) regional Innovation Leaders (38 regions in 2019 with performance more than 20% above the EU average), (2) regional Strong Innovators (73 regions in 2019 with performance between 90% and 120% of the EU average), (3) regional Moderate Innovators (97 regions in 2019 with performance between 50% and 90% of the EU average) and (4) regional Modest Innovators (30 regions in 2019 with performance below 50% of the EU average) (European Commission, 2019). All Regional Innovation Leaders belong to countries identified as Innovation Leaders or as Strong Innovators in the EIS. According to the RIS2019, Helsinki-Uusimaa (Finland) is the most innovative region in the EU, followed by Stockholm (Sweden) and Hovedstaden (Denmark) (Table 2). Interestingly, two most innovative regions in Europe were not in the EU, but located in Switzerland.

Table 1: Regional Competitiveness Index 2019 - top 5 regions and bottom 5 regions

Rank	Top 5 regions			Bottom 5 regions		
	Country	**Region name**	**RCI 2019 score (0-100)**	**Country**	**Region name**	**RCI 2019 score (0-100)**
1	SE	Stockholm	100.0	FR	Mayotte	5.8
2	UK	Inner London West & Inner London East & Outer London East-North-East & Outer London South & Outer London West North West & Bedfordshire/Hertfordshire & Essex	99.1	EL	Anatoliki Makedonia, Thraki	5.7
3	NL	Utrecht	99.0	FR	Guyane	5.6
4	UK	Berkshire, Buckinghamshire and Oxfordshire	98.6	RO	Sud-Est	5.3
5	UK	Surrey, East and West Sussex	98.4	EL	Voreio Aigaio	0.0

Source: Annoni and Dijkstra (2019), p. 9

Table 2: Regional Innovation Scoreboard 2019 - top 5 regions by regional performance groups

Rank	Innovation Leaders		Strong Innovators		Moderate Innovators		Modest Innovators	
	Region name	RII* Score	Region name	RII* Score	Region name	RII* Score	Region name	RII* Score
1	Zürich (CH04)	160.1	Westösterreich (AT3)	119.9	Mellersta Norrland (SE32)	89.4	Észak-Alföld (HU32)	49.7
2	Ticino (CH07)	156.8	Vlaams Gewest (BE2)	119.4	Emilia-Romagna (ITH5)	89.1	Šumadija and Western Serbia (RS21)	48.9
3	Helsinki-Uusimaa (FI1B)	156.0	South West (UKK)	119.1	Bratislavský kraj (SK01)	88.5	Mazowiecki regionalny (PL92)	47.0
4	Stockholm (SE11)	153.8	Gelderland (NL22)	118.8	Koblenz (DEB1)	87.7	Lubelskie (PL81)	46.2
5	Hovedstaden (DK01)	151.0	Limburg (NL42)	118.2	Niederbayern (DE22)	87.4	Swietokrzyskie (PL72)	46.1

Regional Innovation Index
Source: European Commission (2019), p. 19-20

Cooke et al. (1998) argue that Structural Funds should present main tool for promotion of systemic regional innovation in less developed regions. Tödtling et al. (2012) found on the sample of three regions in Czech Republic that the EU support via Structural Funds was the most important factor in the implementation of innovation strategies in all three regions.

Runiewicz-Wardyn (2009) found that European regions have weaker regional clusters and cluster portfolios compared to their competitors, which can be an obstacle to gaining and maintaining international competitiveness.

The European Union has included smart specialization in parts of regional innovation policies and strategies. Today, regional innovation strategies for smart specialization are integrated, area-oriented strategies that (OECD, 2013): focus public goods on innovation and the development of priorities, challenges and needs; emphasize measures to encourage private investment; encourage participation and involvement of all participants and new forms of governance; include surveillance and assessments, and are evidence-based. Smart specialization fosters diversity, which means that there may be multiple priority areas in a region at a time. Although the concept can be applied in every region, it is important to emphasize that regions across the EU differ greatly in their economic and institutional context. According to the available data from the Smart Specialisation Platform, there are around 120 smart specialisation strategies developed in the European Union by member states and regions (Gómez Prieto et al., 2019). McCann and Ortega-Argilés (2016) consider that smart specialisation has played an important role in EU regional development policies.

Blažek and Kadlec (2018) examined the relationship between the structure of R&D systems in European regions and the structure of their knowledge base, on the one hand, and their socioeconomic development and innovation performance on the other hand. They found that European regions are integrated into the global economy in sharply differing modes and that that the differences among the European regions in their prevailing knowledge base, as well as

in the absolute and relative sizes of key R&D segments, are systematic and mutually interwoven.

4. Conclusion

Understanding of regional innovation systems can help policy makers develop approaches for enhancing innovative performance in the knowledge-based regions of today. Successful regional innovation system needs systemic linkages between external, as well as internal, sources of knowledge production and business sector. Today, these systems are a very important tool of a balanced regional development. When taking policy actions, regions should take into account their specific conditions – level of economic development, production specialisation and knowledge base, as well as other factors, in order to implement strategies to reach higher levels of development.

Measures of innovation performance across the EU regions show large differences. This fact, without convergence of less developed regions, can become an obstacle for the EU in achieving and maintain competitiveness. Being able to measure their performances and benchmark them is a very important tool in tailoring further policy instruments. One of the sound policy instruments, which are taking into account geographical dimension, in helping regions foster innovations and establishing functional and successful regional innovation systems, are smart specialisation strategies, which are already implemented across some 120 regions. It is too early to evaluate the results, but having these strategies as the basis for EU financing seemed to be very helpful in some regions when it comes to improving innovation performances.

Further research may include more detailed countries/regions case studies and empirical evidences from global companies.

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THE BRANDING OF POŽEGA-SLAVONIA COUNTRY BY MEANS OF INTEGRAL QUALITY MANAGEMENT OF A TOURIST DESTINATION

ABSTRACT

The purpose of this paper is to examine the way in which tourist destinations, understood as complex tourist spaces including different resources and stakeholders, and defined by the relationship between the local community, attractions and tourists, approach the process of branding by using the model of integral quality management..
Methodology - Primary research is conducted by examining the attitudes of key stakeholders in private tourist sector who create and launch tourist products in Požega-Slavonia County, the examination of public workshops and audit, as well as the study of strengths and weaknesses of its tourist business entities. The results of the research, presented in this paper, are formulated on the basis of the data collected and analysed in this manner.
Contribution - Investigating strengths and weaknesses and analysing the image of a destination are the first steps in the creation of a tourist destination brand. Complementary advantages, nature, climate, geographical position, monuments, are no longer enough. A tourist destination not managing its quality development is left to its own resources, and faces the threat of losing its attributes in the future. This paper illustrates the process of quality management of a destination on the example of Požega-Slavonia County, the goal of which is to define the standard and criteria of quality, named regionally Zlatna Slavonia (Golden Slavonia). The interconnectedness of the offer, information, the development of the destination product, the offer of local products, and a systematic and continued education are goals in establishing integral quality management system of a tourist destination.

Key words: *tourist system, branding, tourist destination, integral quality management, Požega-Slavonia County.*

1. Introduction

Managing the development and quality of rural tourism, as well as the branding of the rural tourism region, is a complex process as it involves a larger number of stakeholders involved in the provision of tourism services and it integrates different activities into a single tourism

product or service (Davis and Morais 2004; Cawley and Gillmor 2008; Krajinović and et al., 2011) In order to achieve all the positive effects of rural tourism on local community development, establishing an integrated quality management requires a strategic approach to rural tourism development, which has not been achieved in many other rural areas (Davis and Morais, 2004). A tourist destination is conditioned by the wishes, preferences, interests and needs of tourists (Vukonić and Čavlek, 2001). The tourist destination from the point of view of tourists should represent a tourist organized and marketable spatial unit, which with the set of its tourist products offers consumers complete satisfaction of the tourist need. It is not the size and administrative boundaries that determine the tourist destination, but its ability to attract tourists and meet their tourist needs and to create a desire to return. Managing the development and quality of rural tourism, as well as the branding of the rural tourism region, is a complex process as it involves a larger number of stakeholders involved in the provision of tourism services and integrates different activities into a single tourism product or service (Davis and Morais 2004; Cawley and Gillmor 2008; Krajinović and 2011). The very idea of an integral quality management (IQM) of a tourist destination stems from the need for qualitative destination management, with defined standards and quality criteria. Unlike the traditional approach to quality management, which mainly applies to individual tourism companies, destination integrated quality management implies equally meeting the needs of visitors, locals and all involved in tourism developments. This paper will outline the activities and efforts of the Požega-Slavonia County, which carries out in its area activities related to raising the quality of the destination and branding called Golden Slavonia. This is an area that covers the administrative boundaries of the Požega-Slavonia County, that is, the cities of Požega, Pakrac, Pleternica, Lipik, Kutjevo, Velika Municipality are actively involved. The project included all tourist boards in the Požega-Slavonia County as well as 100 business entities operating in the area. For the purposes of this paper, the views of business entities on the development of tourism in the Požega-Slavonia County, information of the local population and potential tourists were comprehensively explored on the tourist offer of the county, networking of tourist entities with educational activities.

This research identified the key shortcomings in the tourism development of the Golden Slavonia region. In the first place, this is the absence of the Tourism Development Strategy of the region of Golden Slavonia, and secondly, it is a heterogeneous and fragmented tourist offer with no significant recognition on the international tourist map. Given that rural tourism is dominated by small businesses with limited human resources in terms of staffing and knowledge, there is often no strategic approach to regional management. The main drawbacks identified are that tourist entities are market-independent, perceived as competition, and appear individually. Due to limited financial resources and strong competition in the market, they are not recognizable and competitive. Previous tourism development in Požega-Slavonia County is largely left to individual entrepreneurial initiative and scarce sources of financing. Recognizing this, the public local self-government in cooperation with the regional, which is considered to be the most suitable for coordination in establishing the model of integrated quality management, begins the establishment of the project IQM Destination Golden Slavonia. The goal of the project is the establishment of an integrated quality management system, ie the systematic promotion and implementation of quality management in the destination. The focus of IQM Destination Golden Slavonia on the principles of sustainable tourism development is the systematic encouragement and implementation of quality management in the destination, joint cooperation, synergy in the destination, communication and the impetus for quality. Local and regional values thus defined, which will surely lead to recognition and success in the branding of the Golden Slavonia region in the future.

2. Literature review

Studying the world and domestic literature, it is concluded that there is no unified understanding of the concept of tourist destination and that it has changed over the course of history from the concept of limited administrative borders to the concept that has the basis of cooperation between different interest groups in order to manage tourism supply and demand. . Based on the analysis of numerous definitions of a tourist destination for the purposes of this paper (Butler 1980; Vukonić 1995; Cooper et al. 2000; Magaš 2008; Križman Pavlović 2008; Birkić 2016) it is considered appropriate to define it as a tourist organized and marketable spatial unit, which offers consumers a complete set of tourist products to meet their tourist needs. The tourist destination is conditioned by the desires, skills, interests and needs of tourists (Vukonić and Čavlek, 2001). From the above it can be concluded that the size and administrative boundaries are not important for defining a tourist destination, but its ability to attract tourists and satisfy their tourist needs and create a desire to return.

The focus of the tourist destination is the portfolio of experience of the observed destination, that is, a space that contains some potential promises and certain efforts that need to be conceptually and standardizatonally delivered to tourists, as presented. In this sense, there are two essential and perceptual transitions from:

• Destination product to destination experience

• Destination marketing to destination management.

When it comes to quality, we are aware that there are so many definitions of quality. Quality is the goal because organizations, in this case tourist destinations, have to respond very precisely to the needs and expectations of visitors and tourists if they are to be competitive in the market. According to Avelina Holjevac (2002), quality is the level of satisfaction of the needs and demands of consumers, ie compliance with their increasing demands and expectations.

When creating a brand of a particular tourist destination, it is very important to keep in mind how tourists will understand, perceive, feel and evaluate it. Owners and managers of tourist facilities in rural areas can, depending on the motives of the tourists, develop and adapt the tourist supply and can direct the marketing communication. Furthermore, knowledge of tourists' motives plays an important role in predicting tourists' expectations and improving the quality of service. The motives for the arrival of tourists to rural destinations are multifaceted (Davesa et al., 2010): getting to know authentic rural spaces, watching nature, rest and relaxation, escape from stress and noise in urban areas, playing various outdoor sports, enjoying an authentic enogastronomic offer.

Depending on the nature of the destination, which is made up of different attractions and thus a set of tourist services, the destination is a set of services that means a tourist product for tourists and visitors. Tourist demand will always be higher for those destinations that offer tourists specialized products and services, which have a well-established and recognizable tourist brand.

For a successful and unique branding of a destination, it is important to know who are the holders of the tourist supply, what is their role, what are the attractiveness of the destination and how the destination can be different from the competition. In terms of destination branding, there are no two equal approaches and no unique formula for success. In any case, conscious and planned activity of directing development in a certain area and understanding of the destination as a tourist product is important. In the branding process, it is crucial to reflect on the expectations, perceptions, associations and thoughts that tourists have in relation to the tourist destination, which helps the destination to relate to certain characteristics and characteristics found in the destination that make it distinctive, different from other destinations. In this way, the tourist destination can easily find channels for selling its products, it is easier to reach more visitors and tourists, the best workforce and more investments. Branding a

destination and creating a successful destination brand prevents it from losing its attractiveness even in the times of crisis.

A strategic approach to development is not enough to implement only at the level of individual providers, but also at the level of the whole destination and at the regional and national level. As different stakeholders from the public, private and civil sectors participate in rural tourism, stakeholder networking and an integrated approach to rural tourism development are required (Cawley and Gillmor 2008), thus enhancing the very process of branding and creating a quality tourism product. The success and branding of rural tourism is largely dependent on the willingness of the local community to participate and support the development of the rural destination (Quaranta et al. 2016). According to Đurkin et al. (2017), Community based tourism (CBT) involves the management, control and development of tourism by the local community and has many benefits such as increased local community income, local employment, capacity building and local community cohesion . Thus, Murray and Kline (2015) consider that the integration of local producers in rural tourism is of strategic importance for the revitalization of rural areas because it brings a number of positive effects on the success of rural tourism business and the entire local community. Managing the development and quality of rural tourism, as well as the branding of the rural tourist region, is a complex process as it involves a larger number of stakeholders involved in the provision of tourism services and integrates different activities into a single tourist product or service (Davis and Morais 2004; Cawley and Gillmor 2008; Krajinović and et al. 2011) In order to achieve all the positive effects of rural tourism on local community development, establishing integrated quality management requires a strategic approach to rural tourism development, which has not been achieved in many other rural areas (Davis and Morais, 2004).

However, despite the intense growth of both supply and demand in rural tourism areas, there is still insufficient research addressing the various aspects of rural tourism service provision (Hurst et al. 2009, Kljaić Šebrek 2020). Thus, Hurst et al. (2009) consider that access to quality of services is a key determinant of the competitiveness of rural tourism in an area. According to Rozman et al. (2009) and Kljaić Šebrek (2020) the quality of services in rural tourism is a decisive element in choosing a rural destination.

Irrespective of the type of tourist destination, there are several key components of 6A, which are necessary for each destination (Trošt, 2012: 81) and the very condition and connection of these key components influences the quality and image of the tourist destination. Those are :

1.Atractions - imply natural and social attractions that are important to ensure the initial motivation of tourists to arrive at a destination;

2. Reception facilities/Amenities - includes accommodation and catering facilities, shops, entertainment facilities and other services;

3. Accessibility - refers to the development and maintenance of efficient transport links with broadcast markets (international transport terminals and local transport);

4. Available packages – refers to a package - arrangements prepared in advance by sales agents and their agents;

5. Activites - refer to all available activities in the destination and what the consumer will engage in during their stay in the destination;

 6. Ancillary service - involves marketing, development and coordination activities carried out by a specific tourist destination management organization for the needs of consumers and industry.

In order to achieve successful branding of a tourist destination, the brand must be revived for all visitors and tourists arriving or intending to come to the destination. Through the branding process, the tourist destination itself becomes a recognizable tourism product as a whole. The process of building a tourism brand is time-consuming and demanding, but also cost-effective. Without quality management, or rather quality development, the tourist destination is left to

random, chaotic construction, maximum utilization of resources, threatening to lose all attributes of attractiveness in the future. The very idea of an integral quality management (IQM) of a tourist destination stems from the need for qualitative destination management, with defined standards and quality criteria. Supply networking, information networking, destination product development, local product certification are encouraged, and a local product supply system is being established. Unlike the traditional approach to quality management, which mainly applies to individual tourism companies, destination integrated quality management implies the equal satisfaction of the needs of visitors, locals and all involved in the tourism sector (Cetinski, 2005). The European Commission defines integrated quality management as a systematic effort for internal and external quality, ie economic progress in the short term and local development in the long term.

The goal of the Požega-Slavonia County branding project through the integral quality management of a tourist destination called IQM Destination Golden Slavonia is to systematically encourage and implement quality management in the destination, collaboration, destination synergy, communication and the impetus for quality, to establish a competitive tourist offer of Požega-Slavonia County or destination Golden Slavonia and make the destination more recognizable and stronger on a regional, national and international level. Today, with 20718 tourist arrivals and 46 245 overnight stays (CBS, 2019), she is certainly not. In the total tourist traffic of the continental Republic of Croatia excluding the City of Zagreb, the Požega-Slavonia County accounts for only 1.5%, and the average stay of guests is 2.3 days (CBS, 2019). The emphasis is on innovation, creativity and connectedness, which in the project IQM Destination Golden Slavonia connects private and public partnerships in the destination and the environment, with all partners influencing quality in tourism. Cooperation with national (Ministry of Tourism, Croatian National Tourist Board, CCC) and international institutions (EC, UNWTO) and all destination entities is encouraged in order to exchange knowledge, experience and improve the service.

3. Research methodology

The research data represented here is secondary-collected, quantitative and descriptive. The research for the purpose of this work was conducted in the Požega-Slavonia County, which carries out in its area activities related to raising the quality of the destination and branding called Golden Slavonia. This is an area that covers the administrative boundaries of the Požega-Slavonia County, that is, the cities of Požega, Pakrac, Pleternica, Lipik, Kutjevo and Velika municipality are actively involved. The project also includes all tourist boards in the Požega-Slavonia County as well as 100 business entities operating in the area, divided into several groups as follows: business entities providing accommodation services, private renters, public institutions, catering establishments - restaurants and bars, local producers - wineries, tasting rooms and pubs, family farms, travel agencies, wellness and carriers of tourist supply through attractions.

Table 1: List of participants participating in the branding process of Požega-Slavonia County in Golden Slavonia

Business subjects	Participants of IQM Destination Golden Slavonia
Accomodation	14
Private accomodation	32
Tasting rooms, Breweries, Wineries	17
Tourist agencies	5
Restaurants	6
Local products	13

Business subjects	Participants of IQM Destinatiion Golden Slavonia
Attractions	11
Wellness	1
Caffe's	1
Total	100

Source: authors

The participants of the IQM Destinatination Golden Slavonia project are also the respondents whose research findings will be presented in this paper. The empirical part of the paper used the method of collecting primary data through a survey, in paper form and online. The survey was conducted from May to September 2019. A standardized survey questionnaire was used. The survey is aimed at owners and managers of business entities that are holders of the tourist supply and who participate in the creation of tourist products and services in the County of Požega-Slavonia. In the first phase of realization of the Golden Slavonia brand in the area of Požega-Slavonia County, an audit of business entities was carried out, which lasted from 5 months in 2019 to January 2020. The audit team consisted of four members where each team member was in charge of a specific area from internal and external arrangement of the facility, catering, marketing to finance. The analysis of business entities' websites as well as their activities on the internet and their presence on social networks were also conducted. In this way, the attitudes of business entities on the development of tourism in the area of Požega-Slavonia County, information of the local population and potential tourists on the tourist offer of the County, networking of tourist entities, education were comprehensively researched. Willingness to promote these activities related to digital marketing of businesses will not be the subject of this work due to the limited space of the work itself.

Based on the data thus collected and processed, the survey results are formulated and presented below. Desk method, for the purpose of this paper, collected secondary data: number and structure of tourist accommodation capacities in Požega-Slavonia County in the period 2016 - 2019 and number of realized tourist arrivals and overnight stays in the period 2016 - 2019.

4. Results of research and discussion

In this chapter the information on existing accommodation facilities in the County of Požega-Slavonia, as well as information on tourist developments, are presented.

Table 2: Accommodation overview of Požega-Slavonia County, town of Požega

	2016.	2017.	2018.	Index 2018/16
Republic of Croatia	1 133 751	1 207 422	-	106
Continental Croatia	34012	36 222	-	106
Continental Croatia excluding the City of Zagreb	18903	20 163	21 574	107
Požega-Slavonia County	601	674	1061	176

Source: (DZS, 2019)

According to the data of the Požega-Slavonia County Tourist Board, accommodation facilities in Požega-Slavonia County in 2019 have a total of 1061 beds, of which 57% in overnights, 15% in households, 7% in apartments, 5% in mountain huts, 10% in heritage hotels, 4% in rooms for rent and 2% of uncategorized objects. There is a lack of facilities for higher category accommodation such as hotels with larger capacities. There is a noticeable increase in the

number of accommodation capacities in the Požega-Slavonia County. In 2018, the number of accommodation capacities increased by as much as 76% compared to 2016, and in 2018 the share of accommodation capacities of the Požega-Slavonia County in continental Croatia excluding the City of Zagreb was 5% and tends to increase.Below is an overview of the number of tourist arrivals and nights spent in the County of Požega-Slavonia in relation to the Republic of Croatia, or continental Croatia.

Table 3: Overview of tourist arrivals in Požega-Slavonia County

	2016.	2017.	2018.	2019.	Index 2019/16
Republic of Croatia	15 454 000	17 430 000	18 666 850	20 691 621	134
Continental Croatia	2 009 020	2 265 900	2 516 035	2 661 984	133
Continental Croatia excluding the City of Zagreb	900 000	979 900	1 115 834	1 203 786	134
Požega-Slavonia County	11 516	13 399	16 252	20 718	180

Source: (DZS, 2019)

Analyzing the data from Table 2, it can be seen that at the level of continental Croatia, the arrivals of the Požega-Slavonia County accounted for only 1.5%, but the increase in tourist arrivals is evident. In 2019, as compared to 2016, an increase of as much as 80% is evident. According to the results achieved, it can be concluded that this is a region, Golden Slavonia, which is only at the beginning of the valorisation of exceptional tourism potential.

Table 4: Overview of tourist nights spent Požega-Slavonia County

	2016.	2017.	2018.	2019.	Index 2019/16
Republic of Croatia	77 919 000	86 200 000	89 651 789	108 643 554	139
Continental Croatia	3 895 950	4 310 000	4 855 415	5 086 532	130
Continental Croatia excluding the City of Zagreb	1 923 950	2 046 000	2 343 598	2 432 377	126
Požega-Slavonia County	26 000	31 000	36 134	46 245	177

Source: (DZS, 2019)

In terms of overnight stays in 2019, the County of Požega-Slavonia recorded significant growth compared to 2016 by as much as 77%. The County of Požega-Slavonia accounts for a modest 1.5% of the total nights of continental Croatia without the City of Zagreb.
The average utilization rate of continental Croatia accommodation without the City of Zagreb is 20%. The utilization of accommodation capacities for Požega-Slavonia County in 2019 is 10%. The average stay of tourists in the continental tourist destination is 2.1 days and for Požega-Slavonia County is 2.3 days (CBS, 2019). These are certainly indicators that need to be significantly improved. It is for this reason that, aware of the exceptional natural, cultural and eco-gastronomic potentials for the development of quality and successful tourism, the public local administration and only the administration of the Požega-Slavonia County, with the support of the Tourist Boards, embarks on a quality management project called IQM

Destination Golden Slavonia, ie branding of Požega-Slavonia County into the Golden Slavonia tourist brand. The Integrated Quality Management System in the County of Požega-Slavonia aims to implement quality that encourages controlled progress in products and services in the destination, which will surely be reflected in the increased number of tourist arrivals and the number of tourist nights. With the implementation of this project, the goal is to establish the recognition and uniformity of quality of products and services in the area of the Golden Slavonia tourist destination. The results of the research of Phase 1 of the project will be presented below, and consequently what activities have been undertaken.

The first phase of the implementation of the IQM Destination Golden Slavonia project ran from November 2017 to February 2020. It was implemented in three sub-phases:

1.1. Phase presentation of the project and investigation of the current situation,

1.2. Phase processing of research results, presentation of research results with suggestions and measures for improvement

1.3. Implementation of the IQM Destination Golden Slavonia project and award of certificates

In the first phase of exploring the current situation, the so-called primary survey was answered by 100 respondents, representatives of the accommodation industry, representatives of tasting rooms, pubs, wineries, local producers, holders of attractions, wellness offers, restaurants and cafes.

The following are the results of the primary research regarding the views of business entities on tourism development in the Požega-Slavonia County, informing the local population and potential tourists about the tourist offer of the county, networking of tourist entities, education, and activities related to digital marketing of business entities. When asked what are the biggest challenges of tourism development in your destinations, the respondents pointed out their key challenges: growth and development of quality accommodation, lack of hotel accommodation and unsatisfactory accommodation. The analysis of the accommodation capacities of Table 1. also showed a lack of quality accommodation in the Požega-Slavonia County. In the second place, the lack of events and the lack of quality promotion were highlighted. The tourist functions of manifestations are manifested through the expansion of the tourist market of the destination (Piporas, 2005), the extension of the tourist's stay in the destination, and the construction of the image of the destination (Jago, Chalip, Brown, Mules, & Ali, 2002; Xing and Chalip, 2006), facilitating better promotion of the destination (Schulenkorf, 2010) and as an element of attraction and animation in the destination (Derret, 2002). The manifestations also valorize local culture, traditions and customs (Hong, 2010), provide entertainment and recreation for participants, social cohesion, cultural and social progress (Fredline and Faulkner, 2000; Derrett, 2000). Therefore, it is certain that the role of manifestations is extremely large due to the wide range of influences on the destination and its sustainability, ie competitiveness but also promotion.

When the respondents where asked what was in their opinion the elements that tourists praise the most about the destination, they emphasized that they are natural beauty, eno-gastronomy, kindness of the host. According to the GRI (Global Reporting Initiative), the categories that have the most positive impact on GRI in the Požega-Slavonia County area are the same as the respondents' answers.

Picture 1: Categories that have the most positive impact on GRI in the Požega-Slavonia County

Based on the GRI (Global Reporting Initiative) data, we can conclude that the respondents have a good assessment as to what they are recognized as an attractive tourist destination and what tourists especially value in their destination. According to reviews posted by visitors on the Internet, a high level of quality of the services delivered was also achieved.

The results of the first part of the research indicate that it is necessary to adopt a Strategic Tourism Development Plan for the Požega-Slavonia County, ie Golden Slavonia, whose creation should involve all stakeholders. In the process of integrated tourism planning and crucial development decisions, maximum involvement of local interest groups should be ensured, emphasizing the positive effects that tourism brings to the local community, but also stimulating the active role of interest groups in protecting and enhancing all natural and built values of a certain space (Birkić et al.2014). The basic starting point in creating a vision for sustainable tourism development of a continental tourist destination should be the natural and cultural-historical originality of the destination based on the premise that it is not necessary to change, but to highlight the present advantages and authenticities that increase the competitiveness of the destination's offer (Birkić et al., 2019).

In the further research process, respondents were asked to rate the information of residents and visitors about the tourist offer in Požega-Slavonia County. Respondents were asked if they had sufficient information about the tourist offer in their destination, regarding wellness services, local gastronomy, quality of local products, sports offer, cycling trails, accommodation, excursions and visits to the Papuk nature park, and whether they had information on related offering a range of products in the area of Požega-Slavonia County.

Graph 1: Results of the Surveys on Informing the Respondents on the Tourist Offer in the Požega-Slavonia County
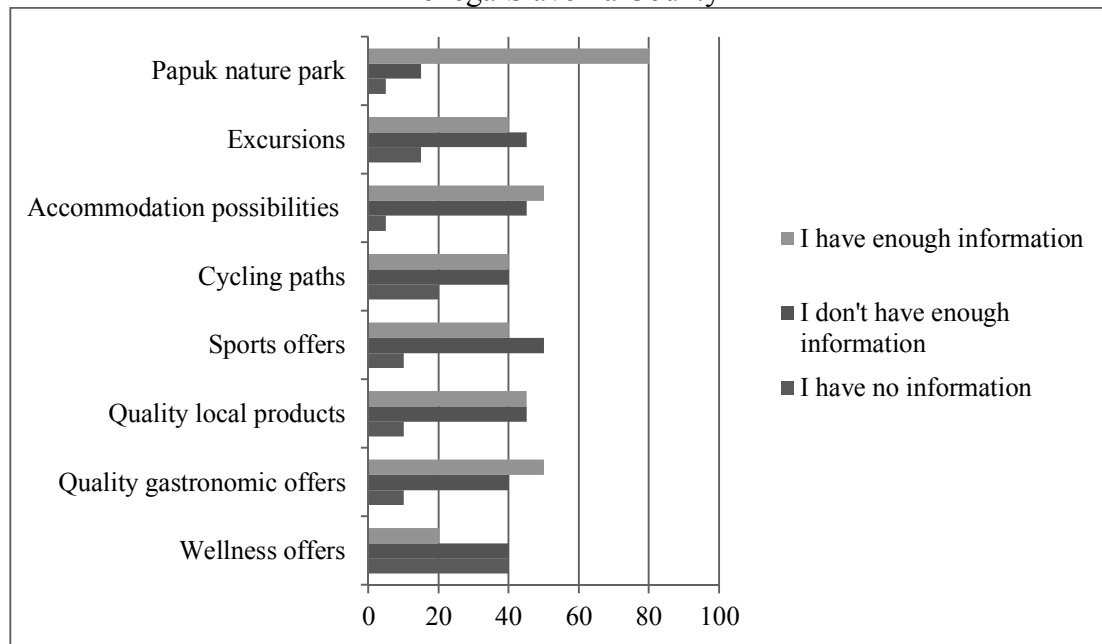
Source: authors

The results of the research show that the respondents are not well informed about other tourist facilities in the Požega-Slavonia County. Over 50% of respondents either lack information or have insufficient information about other tourist facilities. Only all respondents are very well informed about Papuk Nature Park.

Respondents also had to answer the question whether and how much they recommend to their guests other facilities in Požega-Slavonia County. The results of the survey are shown in Graph 2.

Graph 2: Results of the survey on the recommendation of certain tourist facilities in the Požega-Slavonia County
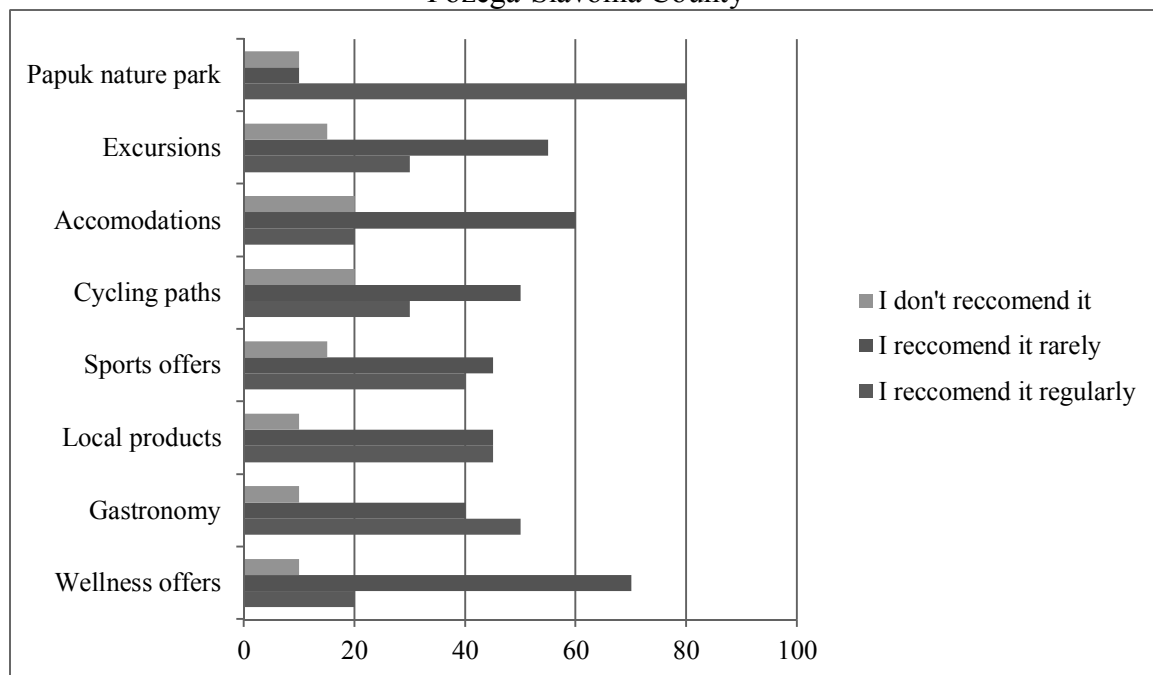
Source: authors

As we see, due to poor information, respondents rarely recommend other tourist facilities to visitors within the Požega-Slavonia County. An area that all respondents are well informed about is Papuk Nature Park and, in view of this, they regularly recommend it to their guests. Somewhat better in terms of recommendations are gastronomic amenities (restaurants and local products). From this we can conclude that the respondents are market-independent, perceived as competition, appearing individually. Due to limited financial resources and strong competition in the market, they are not recognizable and competitive. Previous tourism development in Požega-Slavonia County is largely left to individual entrepreneurial initiative and scarce sources of financing. As a result, a heterogeneous and fragmented tourist offer developed without significant recognition on the international tourist map. Given that rural tourism is dominated by small businesses with limited human resources in terms of staffing and knowledge, there is often a lack of a strategic approach to management at the economic entity level (Quaranta et al., 2016). Thus, Lane and Kastenholz (2015) consider that the biggest weakness of rural tourism today is the fragmentation into a large number of small under-cooperating entities, and that cooperation and networking with other local producers and service providers and stakeholders from other sectors can address the lack of resources. Namely, networking with other stakeholders in rural tourism opens up access to other resources, knowledge, market, technology, information and innovation. Collaboration brings numerous benefits, not only economic but also social through support, inspiration and trust among stakeholders. Therefore, tourist entities should have prepared, updated and updated information about the destination, with emphasis on the offer of other family farms, tasting rooms, picnics, wineries, etc., related offer that makes the range of various products in the area of Golden Slavonia destination. In this regard, it is necessary to organize at least once a year expert meetings on the topic of IQM Destination Golden Slavonia tourist offer and to create a brochure with updated information on tourist offer in the observed area.

Below, Graph 3 gives an overview of the status of the respondents in terms of training attended by the owners or employees participating in the IQM Destination Golden Slavonia project.

Graph 3: Participation of respondents in training related to their field of work

- I participate in training
- I don't participate in training
- It is in the plan
- It is not necessary
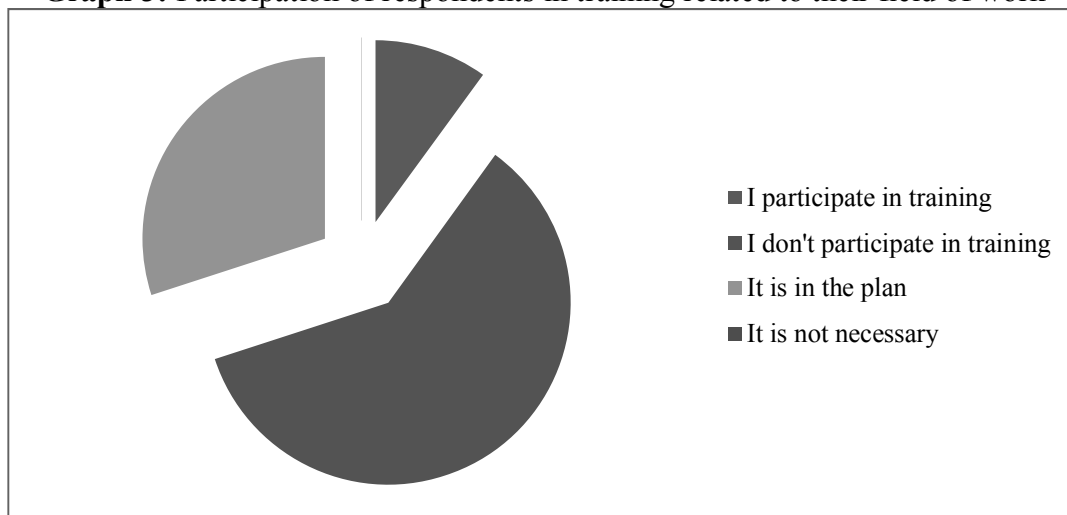
Source: authors

It is evident that only 10% of respondents attend some form of education, while as many as 60% of respondents do not attend any form of education. Standards of IQM Destination Golden Slavonia requires as a mandatory element once a year to participate in education that is intended for all holders of the certificate IQM Destination Golden Slavonia.

The results of this research, as well as the audit findings will be the basis for the development of standards and quality criteria for IQM Destination Golden Slavonia. The audit consisted of a tour of the facility, interviews with owners and employees. The following elements were analyzed: object design, interiors, music and scent animation, environment, business hours internet usage, staff, quality of service and products, online reputation, promotion and presentation of the object on the Internet through social networks and other platforms. Upon completion of the audit, each participant received a written report with comments and clear recommendations for future action so that they could become holders of the IQM Destination Golden Slavonia certificate.

Upon completion of Phase I of the implementation of IQM Destination Golden Slavonia, 100 participants of the project were awarded a certificate of Integrated Quality Management in the destination, which confirms the implementation of the Golden Slavonia standard and continuous investment in knowledge and encouragement for excellence.

By accepting the certificate, the project participants in the first phase of the project have committed themselves to the following, depending on the type of activity they perform or what products and services they offer. The joint obligations are: of all holders of the certificate IQM Destination Golden Slavonia:

- In a prominent place, featured #GoldSlavonia #visitGolden Slavonia
- Establish high quality of service and products (min. 80/100)
- Proactively promote local producers
- At least 50% of attraction products should have a destination theme
- Educated staff - attend at least once a year trainings related to IQM Destination Golden Slavonia
- Networking with a minimum of 10 partners in the destination
- Encourage visitors to rate the quality on the Internet
- Wi-Fi free.

Catering establishments that offer accommodation, food, drink and beverage services by accepting the IQM destination Golden Slavonia certificate have also committed themselves to the following requirements that they are required to implement in their business:

- Fragrant animation inspired by the natural scents of Slavonia plants.

The catering facility, if operating within the accommodation facility or independently in the offer, should have:

- Minimum 50% of the total supply of local origin (Slavonian products);
- Minimum 10% of local dishes from the area of Golden Slavonia (dishes with a story) - recommendation of the #GoldenSlavonia label
- Minimum of three vegetarian dishes and two gluten-free dishes
- Story product based on the tradition of Golden Slavonia
- Minimum of at least 5 types of Croatian wines available
- Minimum of 5 types of wine and 3 brandies available, minimum of 1 type of beer, minimum of 1 type of liqueur from the area of Golden Slavonia
- At least 5 types of wine and 3 brandies from the wider area of Slavonia
- Proactively recommend the local manufacturers we cooperate with
- Tell the story of the production method and the quality of the product
- At least 25% of Golden Slavonia's local products are included in the offer content

Facilities that offer SPA services and holders of IQM Destination Golden Slavonia are required to provide a minimum of 5 services that include the use of local essential oils and Golden Slavonia fragrances (treatments with a story).

5. Conclusion

In order to fully ensure the positive effects of tourism development and its maximum, it is necessary to provide a system of integral quality management of the continental tourist destination on the principles of sustainable tourism development. In this paper, a rural tourist destination in the area of Požega - Slavonia County that in the future wants to be branded as Golden Slavonia, is the main topic. It is a tourist region which has extremely rich natural, social resources, rich and recognizable eno-gastronomic offer, but in spite of this, it achieves extremely low tourist traffic in national contexts. This research identified the key shortcomings in the tourism development of the Golden Slavonia region. In the first place, this is the absence of the Tourism Development Strategy of the Golden Slavonia region, and secondly, it is a heterogeneous and fragmented tourist offer without significant recognition on the international tourist map. Given that rural tourism is dominated by small businesses with limited human resources in terms of staffing and knowledge, there is often no strategic approach to management at the level of the economic operator. The main disadvantage is that the tourist entities are independent of the market, perceived as competition and appear individually. Due to limited financial resources and strong competition in the market, they are not recognizable and are competitive. Previous tourism development in Požega-Slavonia County is largely left to individual entrepreneurial initiative and scarce sources of financing. Recognizing this, the public local self-government in cooperation with the regional, which is considered to be the most suitable for coordination in establishing the model of integrated quality management, begins the establishment of the project IQM Destination Golden Slavonia. The goal of the project is the establishment of an integrated quality management system, ie the systematic promotion and implementation of quality management in the destination. The focus of IQM Destination Golden Slavonia on the principles of sustainable tourism development is to define values at the local and regional level.

The IQM Destination Golden Slavonia project itself began with a study of the strengths and weaknesses of the Golden Slavonia tourist region and an analysis of the existing image of the destination. The ultimate goal of this project is to clearly define and implement the standards and quality criteria called Golden Slavonia. Systematically encouraging and implementing the requirements and standards of IQM Destination Golden Slavonia will also facilitate the adoption of the Strategic Plan for Tourism Development of the Golden Slavonia Tourist Region, as well as encourage the cooperation and networking of tourist entities operating in the region of Golden Slavonia. The emphasis is on innovation, creativity and connectedness, which in the project IQM Destination Golden Slavonia binds private and public partnerships in the destination and the environment, with all partners influencing quality in tourism. Cooperation with local, regional, national and international institutions is encouraged to share knowledge and experience with the ultimate goal of creating a successful and recognizable Golden Slavonia brand on the market. The goal of IQM Destination Golden Slavonia is to network partners and their services and tourism products in the destination. Establishing a public-private partnership emphasizes the importance of quality of service and   products   and   the competitive advantage of the destination. The basic determinants of quality management in the destination are sustainable development and responsible tourism. This paper presents one good example of how to approach recognizable brand building through integrated quality management entities.

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A scientific paper

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GARCH ESTIMATION OF CEE FINANCIAL INTEGRATION AS COMPARED WITH GERMANY

ABSTRACT

Paper deals with procyclicality of stock exchanges regarding the economic activity of selected CEE countries, to measure the level of financial integration and to compare them with Germany as developed and leading EU economy. Empirical evidence of a relationship between stock exchange indices and main (macro) economic indicators have been analysed by using GARCH method. Research has shown that there are similar reactions of the CEE macroeconomic variables to different stock indices, also compared with Germany. However, there is no closer financial integration of CEE countries with Germany. Relation between financial market and real sphere in CEE countries reflects the one in the developed country, with some fundamental obstacles in CEE countries still to be overcome.

Key words: *stock markets, integration, European Union, ARCH.*

1. Introduction

The economic unions around the world were established during the last couple of decades. It is the reaction to the processes of globalization, fast flow of information, capital and labour. European Union (EU), North American Free Trade Association (NAFTA), Association of South-East Asian Nations (ASEAN) and many others strive to economic integration and cooperation. The main goal of regional associations is to strengthen the economic power to face global competition. The way to strengthen the economic power of member countries is to develop full economic integration and to bring benefits to all members of the association. This is especially true for the integration of transition (post-communist) countries into the EU. A transition country should carry out institutional reforms to catch up developed economies (Schönfelder and Wagner, 2016). The EU wants to create a better integrated, more competitive and innovative market place. Large market allowed achieving economies of scale. The competition led to better allocation and higher productivity of capital. It was also aimed at providing increased incentives for European producers to invest in product and process innovations, thereby improving the dynamic efficiency of the European economy.

For European consumers, the Internal Market was also seen as a source of benefits through wider choice and lower prices. International economic integration increased the competitive

pressures faced by European companies (Ilzkovitz et al., 2007). There are a lot of studies that investigate financial and economic integration. The underlying theoretical argument that links financial and economic growths is that financial markets allow achieving better allocation of capital. Financial markets require high effectiveness to satisfy investors. Better allocation of capital and higher effectiveness results in economic growth. There is no consensus whether the economic growth enhances the financial market or financial market enhances economic growth, but there are relations between real and financial sphere (Collins, 2007).

Many authors focus on interdependence of developed and developing markets in order to find out financial integration linkages. The main goal of this study is to estimate financial integration of Poland, Czech Republic, Slovak Republic and Hungary as a representative group of developing CEE countries and compare them with Germany, developed and strongest EU economy, by the impact of macroeconomic variables on the stock market indices during the period 2004-2018. Selected CEE countries are post-transition countries which in 2004 entered the EU. Therefore, paper analyses the impact of macroeconomic variables on stock market indices for the period since EU accession.

Poland, Hungary, Slovak and Czech Republic are part of the CEE region and also form informal regional cooperation so called Visegrad Group (V4). The Visegrad cooperation has a unique position in the Central and Eastern European region (Schmidt, 2017). Countries are connected not only by geographical neighbourhood and similar geopolitical conditions, but above all common history, tradition, culture and values. The idea of creating the Group was to intensify cooperation in the construction of democratic state structures and free market economy, and in the long run to participate in the process of European integration (Ciesielska-Klikowska, 2020).

The following chapters are structured thusly: In chapter 2 the theoretical background of the empirical analysis, macroeconomic environment and stock exchange markets in the observed countries are presented. An overview of existing empirical literature and different methodologies on the subject of assessing financial integration and testing the procyclicality of stock indices can be found in the chapter 3. The methodology and the data for the empirical analysis are explained in chapter 4, just like results and discussion; and the implications of the empirical analysis are revisited in the conclusion (chapter 5).

2. Theoretical background of empirical analysis: the macroeconomic environment and stock markets in CEE countries and Germany

Financial integration is positively associated with real per capita GDP, educational level, banking sector development, monetary growth, credit growth, stock market development, the legislation of the country and government integrity. GDP growth presumes a rise of the industrial production index and the rise of trade. Industrial production affects stock returns positively, primarily through increase of the expected cash flow (Aizenman and Noy, 2005).
The exchange rate as an important explanatory variable has a significant negative impact on stock exchange indices, followed by negative interest rates. A reduction in interest rates reduces the costs of borrowing, which have a positive effect on the future expected returns for the firm. Also, an increase in interest rates would make stock transactions more costly. Investors would require a higher rate of return before investing. This will reduce demand and lead to a price depreciation (Knif et al., 2008).
There is no consensus in theories and empirical evidence about the influence of inflation on stock exchange. The influence of inflation on stock exchange volatility could be negatively or positively correlated to the stock exchange. Fisher hypothesis about positive correlation between inflation and stock exchange volatility could be explained with the fact that the market rate of interest comprises the expected real rate of interest and expected inflation. This

hypothesis, when applied to stock markets, postulates a positive one-to-one relation between stock returns and inflation (Mohammad and Abdelhak, 2009).

The hypothesis how growth and improved macroeconomic stability lead to substantial private capital inflows, which can bring in additional volatility of stock indices is widely accepted in the literature. Generally, there is a positive relationship between the capital inflow and stock market indices (Sherazi and Ahmad, 2014; Syed et al., 2013).

Government debt significantly raises the borrowing cost of the domestic corporate sector, which discourages investment and reduces corporations' profits. Therefore, higher government debt causes higher lending interest rate, which may impact negatively on the development of the stock market (Aigheyisi and Edore, 2014).

There is a robust negative relationship between capital accumulation and unemployment, which has been reflected on capital market as a negative correlation. Also, higher stock market activity is associated with a lower unemployment rate, which also means that will have greater impact on stock volatility (Feldmann, 2011).

2.1. The macroeconomic environment and stock markets in selected CEE countries

Countries of the CEE region all went from being centrally planned economies to market economies, taking about twelve years to become member of the EU. These economies experienced very rapid development and liberalisation of their market while undergoing these changes (Baltzer et al, 2008). Some countries in the region went through less painful changes in their system, while others faced a lot of economic and social problems. Definitely, even the most developed countries of the CEE region were faced with challenges when trying to reach the standards of the most developed market economies. Poland, Hungary, Czech Republic, and Slovakia joined the EU in 2004. But Slovakia is the only one who introduced the euro currency (in 2009).

Governments and other state bodies of countries of the CEE region had put a lot of effort to meet all requirements to be able to join the EU. They have also followed all rules and started implementing demanding reforms after joining the EU. For former communist countries in Central and Eastern Europe, accession to the EU was part of their "back to Europe" endeavour. For all of those countries, the decision to join the EU was made with strong support of the citizens. The decision was preceded by referendums and more than half of participating voters voted in favour (Kažoka, 2014).

After 2000, most CEE countries recorded economic growth and GDP per capita grew quite rapidly with low inflation and progress in the field of market reforms. Due to lower domestic and foreign demand, CEE noticed deficits in current account at the beginning of 2000. But market reforms and economy restructuring resulted in lower deficit in current account in Poland and Czech Republic and surplus in Slovakia and Hungary. Still, the GDP per capita in countries of the Central and Eastern Europe region is lower when compared to the developed countries of Western Europe, but the gap is getting narrower (e.g. Poland has the lowest level of GDP per capita - 44% of average EU level in 2004). The average economic growth of CEE countries in the last decade was higher than in the EU because there was obviously open space for further development. It seems that all governments and central banks in the CEE region have been aware of the importance of stabilisation and low inflation for economic growth.

The Central European countries have become an important production centre on the EU market. They have become an attractive place to invest capital, especially for German small and medium-sized businesses. After they entered the EU their legislation was already close to German. Thanks to its relatively low wages and high productivity, Central Europe has become a factory for German products on the EU market. Germany is Central Europe's

most important economic partner, and in recent years this link has brought forth mutual economic benefts (Poplawski, 2016).

Grela et al. (2017) state that the CEE countries' growth and convergence will be in the future driven mainly by factors affecting structural competitiveness, especially innovation activity, institutional environment and policies targeted at diminishing the influence of demographic developments on the labour market outcomes. Khan (2020) points out that trade spillover effects of trade shock in the Central European Countries are strong and have a positive impact on economic growth which indicates their level of integration.

Relations of the V4 countries and Germany are essential for their economic development. Without a doubt Germany is the most important partner for all countries of the group, and vice versa. In addition to close political, cultural and social cooperation, these countries are linked by strong economic cooperation (Ciesielska-Klikowska, 2020).

The dramatic increase in stock prices in the CEE accession countries following the announcement of EU enlargement was a result of market integration and the subsequent re-pricing of systematic risk (Dvorák & Podpiera, 2006). At the end of 2012, stock market capitalization of CEE ranged between 5% (for Slovakia), 17% for Hungary and Czech Republic and 30% for Poland. These percentages are well below the euro area levels. For instance, at the end of 2012, despite the economic slowdown, the stock market capitalization for Germany was according to World Bank data approximately equal to 60% of its GDP, and 115% for the UK, and 115% for the US. The financial crisis had a great impact on CEE stock market because the indices did not recover and did not regain the pre-crisis levels.

Capital markets of the Visegrad Group are classifed as emerging markets. This is being expressed by the sophistication of the markets, the availability of financial products, and the capitalisation and liquidity of the respective markets. The total capitalisation of the stock exchanges in V4 equals to EUR 165billion, with Warsaw Stock Exchange (WSE) being three times larger than the remaining bourses of the Visegrad Group aggregated (Faldzinski et al., 2016).

Capital market liberalization has increased liquidity by almost 500 percent within the region over the past five years. Indeed, the Warsaw Stock Exchange has reached a market capitalization of 50 billion euros in just 13 years, reflecting the successful growth of the economy as a whole. The Visegrad region has made a remarkable success of aligning and strengthening financial services to meet the challenges of an enlarging European Union and to compete effectively with larger and more developed countries both regionally and internationally (International Visegrad Fund, 2020).

2.2. **German macroeconomic environment and stock market**

Germany is the largest national economy in Europe and is the third largest exporter in the world. Since the early 2000s, Germany faced current account surplus and its level is growing as a percentage of GDP. In 2002 it was 2% of GDP and 7% of GDP in 2007. When financial crisis emerged, the German government thought it would be confined to the USA only and would not affect Western Europe. Quite suddenly and unexpectedly, the German banks were strongly affected by the financial crisis (Kickert, 2013) and due to close affiliations between banks and industry, the crisis spilled over to real economy. Germany faced the recession in the second and third quarters of 2009, mostly due to rebounding manufacturing orders and exports - primarily from outside the Euro Zone - and relatively steady consumer demand. In 2009 the fall in the GDP growth rate was - (minus) 8%. In October 2008, the government set up a rescue fund for the banks. And in January 2009 the German government implemented a

€50 billion ($70 billion) economic stimulus plan to protect several sectors from a downturn and a subsequent rise in unemployment rates. Germany was hit hardly by the economic recession, but it recovered sooner and better than many countries.

The German economy profited from the apparently highly effective economic recovery package. In 2009, the German economy experienced a 5% decline, but the recovery began in September 2009. In 2010, the Germany economy showed a 2% growth and in 2011 a 3.2% growth was predicted. In 2009 GDP per capita was 36,000 USD and it was by 2,000 USD lower than year ago (this level was comparable with GDP per capita in 2005). After 2009 GDP per capita was growing quite significantly (almost by 1,000 USD per year). Germany faced the lowest level of unemployment rate of 7% in the 2009. Because of financial crisis the unemployment rate grew only slightly to 8%. It means that the employment in Germany did not decrease noticeably. Since then the unemployment rate is decreasing systematically and in 2016 is approximately 4%. Due to financial crisis in 2009, the amount of export decreased significantly by 30%, and it was no sooner than in 2012 that the export amount of 2008 was regained. Current account showed surplus during the whole financial crisis and in 2008 was 7% of GDP. For the next two years it was stable at the level of 6%, and since 2010 it is growing again - reaching the level of 9% in 2015.

Government debt as a percentage of GDP after 2007 grew rapidly, achieving the level of 80% in 2010. Then it started to decrease with some fluctuations and in 2015 was at the level of 72%. In the late 1990s and into the early 2000s, Germany was often called "the sick man of Europe". Today, after the Great Recession, Germany is described as an "economic superstar". In contrast to most of its European neighbours and the United States, Germany experienced almost no increase in unemployment during the Great Recession, despite a sharp decline in GDP in 2008 and 2009. Germany's exports reached an all-time record of $1.738 trillion in 2011, which is roughly equal to half of Germany's GDP, or 7.7 percent of world exports. Even the euro crisis seems not to have been able to stop Germany's strengthening economy and employment (Dustmann et al., 2014).

Recently, the country has been showing sound economic performance with steady growth. Being the largest in the European Union, the German economy is the fourth worldwide behind those of the US, China and Japan. The country was declared to be the largest exporter of goods in Europe and the third largest in the world. In terms of purchasing power parity, it is ranked fifth worldwide. However, what attracts so many international investors to trade German assets, such as stocks, bonds and indices, is the fact that Germany offers one of the most active and liquid markets in the world (FSE, 2020).

The DAX Index is the benchmark index for the German equity market. It tracks the performance of 30 selected German blue chip stocks traded on the Frankfurt Stock Exchange, which represent around 80 percent of the market capitalization listed in Germany. More than 50 percent of the total trades on the Frankfurt Stock Exchange are from investors located in countries outside of Germany. It had a market capitalisation of around $1.99 trillion as of March 2019, making it the world's 12th largest stock exchange (FSE, 2020).

3. Empirical literature overview and different methodologies of assessing financial integration

A number of studies have analysed how stock market integration affects stock market returns and investigated if stock market returns become more correlated in a more integrated market. The level of maturity of the domestic capital market is usually associated with the level of development of an economy. Various research studies indicate that an efficient capital market

is beneficiary to economic growth, macroeconomic performance, job creation and hence growth in living standards (Faldzinski et al., 2016).

Stoica and Diaconașu (2013) investigated linkages between several CEE emerging stock markets and Austrian, French, German, British and American stock markets. They used two econometric models which are estimated in framework of maximum likelihood, GARCH, and vector auto regression. Authors suggest that there exists some reaction from CEE markets to the arrival of price innovations from the developed markets, but the nature of these reactions and responses is mixed.

Dajcman et al. (2012) investigated stock market comovements between developed markets (Austria, France and Germany) and the developing stock markets (Slovenia, Czech Republic, and Hungary) by rolling wavelet correlation technique. Developed European stock markets were more interdependent in the observed period than the CEE stock markets. The latter group of countries exhibited a lower degree of comovements between themselves as well as with the developed European stock markets during all the observed time period.

Gjika and Horvath (2013) examined time-varying stock market comovements among three major Central European markets (the Czech Republic, Poland and Hungary) employing the asymmetric dynamic conditional correlation multivariate GARCH model. They found that asymmetric volatility is common in these stock markets and how correlations among stock markets in Central Europe and between Central Europe vis-à-vis the euro area are strong.

Chocholatá (2013) employed dynamic conditional correlation (DCC) models and found that the most rapid progress in the degree of stock market comovement between the CEE country and DAX was achieved for Hungary and Poland, followed only by the slight progress in case of the Czech Republic.

Peša et al. (2017) used panel ARDL method for estimation of stock market indices and macroeconomic environment of CEE countries. They found that export and import growth, followed by significant industrial production, were important for the GDP growth in all CEE countries. If this group of countries had not faced the global crisis of 2008/09, they might today resemble most developed EU countries.

Pražak and Stvarek (2017) investigate the nature of the causal relationships between macroeconomic factors and stock prices of selected financial sector companies listed on the Central European Exchanges by using the VECM model for the period from 2004 to 2017. Authors find out that GDP, inflation rate, interest rate, money supply and the unemployment rate affect stock prices, although the results did not provide a universal conclusion for all countries in the Visegrad Group.

Thai-Hung (2019) analysed the correlation of volatility between indexes of a CEE emerging countries (Hungary, Poland and Czech Republic) equity markets through the study of the dynamic conditional correlation based on five-dimensional GARCH-BEKK model for the period from 2007 to 2018. Author find out that correlations between observed markets are particularly significant as a result of strong economic integration for the period 2007-2018.

For the overall post-crisis period (2010-2016), the positive statistically significant linkages were detected among all V4 official stock market indices, indicating the similar stock market behaviour of geographically connected economics (Vychytilova, 2018). Differences in the V4 countries' economic performances are being narrowed (Ivanová and Masárová, 2018).

4. Methodology, data, results and discussion

4.1. Data specification

We constructed a data set of explanatory variables that are usually included in models: capital inflow (in billions of domestic currency, in real terms); the exchange rate (express as the price of one unit of foreign currency in units of domestic currency); the real GDP (in billions of domestic currency deflated by GDP deflator); government debt (expressed as percentage of GDP); short-run (6 months) interest rates (p.a.); trade balance (in billions of domestic currency deflated by GDP deflator) and unemployment rate (expressed as a percentage of the total labour force). We relied on the Eurostat database and on the databases of the national statistical bureaus of individual countries.

All the nominal variables expressed in national currencies were corrected by an individual country's appropriate deflator(s) (using the December of 2018 as the base) and converted into EUR by using the exchange rate of December 2018.

A monthly time series was used for the period from January 2004 to December of 2018, in selected CEE countries, Germany and US. The local stock price indices (closing prices) were used for each of the examined stock markets: PX (Czech Republic), BUX (Hungary), WG20 (Poland), SAX (Slovak Republic), DAX (Germany) and S&P500 (United States of America). Stock indices data (closing) were collected on national stock exchanges and adapted to monthly average indices from January 2004 to December 2018.

4.2. Methodology

In different estimations for the empirical evidence of a relationship between stock exchange indices and main (macro) economic indicators, we used the Autoregressive Conditional Heteroskedasticity (ARCH) methodology. Many studies used ARCH models for analysing behaviour of financial time series due to its ability of capturing the non - linearity and volatility clustering in stock data (Al-Zararee and Ananzeh, 2014). First, Engle (1982) introduced ARCH model appropriate for the stock markets characterized by time-varying volatility while Bollersev (1986) additionally proposed GARCH model in which the explanation of conditional variance can be captured parsimoniously. It has been used as a variance equation to be estimated simultaneously with the normal regression model in the mean equation. This method eliminates conditional heteroskedastic problems and makes the results in the mean equation more valid.

Therefore, GARCH method is very useful in examining the simultaneous variations among stock market returns and macroeconomic factors (Hussain et al., 2015), while significant coefficient of the lagged square error term (LSET) confirms validity of the model (Al-Raimony and El-Nader, 2012; Amit and Nitesh, 2014; Hsing and Hsieh, 2012). Before applying GARCH method, we eliminated the overly correlated explanatory variables for every country. There are two primary methods to examine the degree of co-integration among indices: the Engle-Granger methodology (1987) which is bivariate (testing for co-integration between pairs of indices) and the Johansen-Juselius technique. All variables were seasonally adjusted (Eviews 7, Stata 10) on the basis of monthly data from 2004 to 2018 for individual regressions. We used the Augmented Dickey-Fuller (1979) test to test a series for the presence of a unit root. According to the test results given in Table 1, all variables are stationary in the form dlog (x) i.e. integrated of order 1. To determine the lag length, we used Schwarz Information Criterion, because the Schwarz criterion and its parsimonious model perform better over a longer period of research (Ashgar and Abid 2007). A maximum of twelve lags was considered for each variable when determining the lag length.

Table 1: The Stationarity (Augmented Dickey-Fuller) - Poland, Czech Republic, Slovak Republic, Hungary, Germany, the US

Variable	Poland		Czech Republic		Slovak Republic		Hungary		Germany	
	Level	dlog(x)	Level	dlog(x)	Level	dlog(x)	Level	dlog(x)	Level	dlog(x)
CAP	-1.87	-4.15*	-2.15	-6.91*	-2.41	-9.46*	-0.86	-7.31*	-1.35	-9.05*
EXR	-1.76	-8.26*	-2.79	-3.09**	-	-	-1.92	-13.55*	-2.72	-8.45*
GOD	-2.07	-4.26*	-	-	-0.12	-4.51*	-	-	-	-
INP	-	-	-1.61	-6.65*	-1.04	-2.79**	-1.93	-5.66*	-0.63	-2.14**
INT	-2.79	-3.59**	-0.94	-3.93**	-1.37	-3.84*	-1.88	-3.85*	-1.21	-3.29*
UNE	-1.63	-5.15	-2.08	-5.22*	-2.27	-6.11*	-1.64	-4.44*	-1.48	-4.32*

(*) and (**) indicate significance respectively at 1% and 5%
Variables: CAP- capital inflow, EXR- exchange rate, GOD- government debt, INP- industrial production, INT-interest rate, UNE- unemployment
Source: made by authors (2020)

5. Results and discussion

In Table 2 we found evidence for the strong impact of all variables on the pricing of stock exchange indices in each country. The variables are in most cases statistically significant, but the direction of impact needs sometimes to be more thoroughly examined. The impact of capital inflow on stock market might be explained by the theory (Sherazi and Ahmad, 2014; Syed et al., 2013) that assumes positive impact on stock exchange indices. The more capital inflows to the country, the more money might be invested in the companies by buying shares or bonds. And this is confirmed for all observed countries. High positive coefficient correlation for Hungary, Poland and Czech Republic confirms that those markets are strongly dependent on capital flows. Farnad et al. (2019) conclude that the effect of financial integration on financial development significantly changes according to the different financial inflows which have strong impact. Peša et al. (2017) found positive impact of capital inflows and industrial production in the CEE group of countries. Integration is positively correlated with real per capita GDP, monetary growth, credit growth, stock market development, and that the radical rise in stock prices in the CEE transitional countries is solid evidence of a good environment for economic development in the region.

For all CEE countries and Germany there is positive correlation between exchange rate and the pricing of stock exchange indices. We expected to find negative correlation, because the theory assumes that any depreciation of the currency should bring positive economic activity and the rising trends of stock exchange indices (Knif et al., 2008). Our findings might be explained as follows: a rising/stable stock market is an indicator of an expanding/mature economy, and the demand for the currency rises and it appreciates and vice versa: decreasing stock market is a sign of declining economy and the currency depreciates. Poland moved gradually from a rigid fixed exchange rate targeting regime to a more flexible system with wide bands over time. This process is obvious in our results (see table 2). Exchange rate volatility depends on the exchange rate regimes so volatility is more harmful when countries adopt flexible exchange rate regimes (Barguelli et al., 2018).

Only Poland and Slovakia have shown strong negative impact of government debt, which is consistent with the theory (Al Kharusi and Stella, 2018). When the government issued new bonds, people withdrew money from stock market to buy government bonds. It seems that

citizens in these two countries react strongly to new issues of government bonds. In other countries the research did not allow to draw any statistically significant results regarding government debt.

Industrial production index is positively correlated in Czech Republic, Slovakia, Hungary and Germany, but did not show strong correlation in Poland. The theory assumes that the higher industrial production index, the more optimistic the businessmen and investors are (Aizenman and Noy, 2005). And the more optimistic they are, the more they invest in the development of companies and they are also more prone to raise new capital.

Interest rates have been recently an important tool of monetary policy focussed on supporting economic environment. The theory assumes that the lower interest rate, the cheaper capital is and the more prone the companies are to invest (Knif et al., 2008). We found negative correlation in all analysed countries (CEE and Germany), which is consistent with our expectations and theory. Also, Saglam and Guresci (2018) found co-integration between interest rates and stock prices of Poland, Hungary, Slovak Republic and Czech Republic, so they conclude that monetary policy decisions have an impact on investors' behaviours in the observed CEE countries.

Interest rate of Hungary is even more significant. The market rate in Hungary, as well as the central bank base rate, changed by relatively large steps in the recent years. This fact motivated the banks to adjust their rates more quickly than in other countries, enjoying a more stable financial environment.

As for unemployment in all analysed countries, there is a negative correlation. And again, this relation is consistent with the theory (Feldmann, 2010) and our expectations. The theory assumes that the lower unemployment rate, the more optimistic the companies and individuals are. The more optimistic they are, the more willing they are to invest (both companies and individuals). Our results show rather high coefficient of unemployment rate in Slovakia. The average rate of Slovak unemployment in the last 20 years reaches 14.5%, well above the majority of European countries. Main findings suggest that there are three predominant causes of the unemployment presented in the order of their importance. First, very low skills and discrimination exclude Roma population from the labour market. Second, inadequate initial structure of the economy continues to hamper employment growth from the onset of the transition process. Third, high contributions and inappropriate tax-benefit system reduces job creation among low-income households (Machlica et al, 2014).

The identified relations between macroeconomic indicators and the pricing of the stock exchange indices might be explained by relevant theory for analysed countries. Still some specific economic situation distorts juxtaposed theoretical explanation in some countries. German stock exchange presents strong correlation with capital flows, exchange rate, industrial production index, interest rate and unemployment. Our results prove the same behaviour pattern of the CEE countries as developed economies, which might be result of the long period of analysis - 2004-2018. The 15 analysed years covers 180 monthly observations, which is quite a long time to find out the stable relation free of impact of any economical distortion (financial crisis, slowdown, and inflation).

All analysed CEE countries seem to follow the German pattern (but with higher or lower correlation coefficient). It should be pointed out that Ciesielska-Klikowska (2020) find out that there is a strong economic integration of Visegrad countries with the Germany while their dependency is mutual.

However, correlation analysis of stock market indices shows that Poland is the only stock market from CEE group that is strongly correlated with the German - (0.8) for the whole 2004-2018 period, while Hungary shows moderate correlation (0.3), Czech Republic no correlation at all (0.01), and Slovak Republic negative correlation (-0.25).

Anyway, the results are suitable for the period of CEE countries being a member of EU. The CEE countries made a great deal of progress in transforming and restructuring their economies. Glodowska i Pera (2019) state that economic integration of the CEE countries to the EU has had a positive and dynamic impact on their catching up process since 2004.

Observed countries react in the same way as Germany, but there are still a lot of problems to be solved: high and growing government debt, high unemployment rate, uncompetitive industries, low GDP per capital, low standard of living, outflow of skilled workers to Western Europe. There are still a lot to do to increase macroeconomic and financial stability, pace and depth of structural reforms, to strengthen the business environment.

Table 2: GARCH method coefficients by individual country

Dependent variable: dlog(y) (01m 2004 to 12m 2018)					
Variable	Poland	Czech Republic	Slovak Republic	Hungary	Germany
dlog (CAP)	0.2393*	0.2965*	0.0752*	0.4899**	0.0653*
dlog (EXR)	3.9684*	1.8553*	-	0.9608*	1.8544*
dlog (GOD)	-0.7949**	-	-0.7958*	-	-
dlog (INP)	-	3.6922**	4.4456*	3.2542*	2.2138*
dlog (INT)	-0.0164*	-0.0861*	-0.0850*	-0.1774*	-0.0582*
dlog (UNE)	-0.8082*	-0.4165*	-3.0376**	-0.8957*	-1.4916*
Variance equation					
RESID(-1)^2 (α)	1.5381**	1.3261**	1.1781*	1.2809*	0.2709**
GARCH (-1) (β)	0.2851*	0.0556**	0.0915*	0.0875**	1.2001*
(*) and (**) indicate significance respectively at 1% and 5% Abbreviations: CAP- capital inflow, EXR- exchange rate, GOD- government debt, INP- industrial production, INT-interest rate, UNE- unemployment					

Source: made by authors (2020)

Coefficients both the lagged squared residuals (α) and lagged conditional variance (β) in the Variance equation are significant (probability less than 5%). Past volatility in cases of Germany ($\beta > \alpha$) means that the stock markets were more affected by past volatility than economic news while for the other CEE countries volatility clustering exists in the present moment.

6. Conclusion

We aimed at investigating the financial integration with reference to macroeconomics situation of the economies of CEE countries against Germany, developed county, in period of 2004-2018. We expected to find closer correlation, especially since CEE countries fulfil all necessary requirements and they became members of EU since the early 2000, and they are considered to be more developed than they were at the beginning of the 1990s. CEE stock market indices showed weak or no relation with German stock market (except for Poland) in the long term. Despite weak relations between stock markets from different countries, we found that analysed stock markets react in similar way and with similar strength to the main macroeconomic indicators. This might prove that the relation between financial market and real sphere in CEE countries reflects the one in the developed countries, with some fundamental obstacles in CEE countries still to be overcome. Movements of the stock market indices are the results of the movements in the economy.

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A scientific paper

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POSSIBILITIES AND LIMITATIONS OF IMPROVING FACTORING IN BOSNIA AND HERZEGOVINA: LEGAL AND ECONOMIC ASPECTS

ABSTRACT

The challenges of financing and lending in contemporary business conditions are sought to be overcome by the introduction of specific methods, techniques and contractual instruments. One of those methods is factoring. The factoring system in Bosnia and Herzegovina at the end of the third quarter of 2019 consisted of one registered factoring company and four commercial banks. Furthermore, the total value of concluded factoring contracts has increased by 51 percent compared to the previous year. This basically means that factoring in Bosnia and Herzegovina is at its infancy but has the potential of driving significant benefits to the business community and improving the business environment. On the other hand, half (50 percent) of Bosnian-Herzegovinian companies state that they would be able to hire more employees if their debtors were faster with the payments. Additionally, they would be able to mitigate late payment consequences such as penalty interest costs, income loss, liquidity squeeze, a threat to survival, employee layoffs, fewer new job openings, etc. Considering the previous, the aim purpose of this paper is to investigate the possibilities and limitations of improving factoring in Bosnia and Herzegovina as a progressive financial product that affects cash flow, improves liquidity and accelerates working capital. By using the comparative method and analysis method we have concluded there is a significant room for the affirmation of factoring. Key areas of future improvements: legislation, factoring promotion and factoring fees.

Key words: *small/medium-sized enterprises (SMEs), factoring, banks, accounts receivable, Bosnia and Herzegovina (B&H).*

1. Introduction

From an economic perspective, factoring represents a specific corporate funding instrument. To be more precise, factoring is a claims recovery mechanism allowing for increased liquidity of a business enterprise. Considering that factoring is a funding instrument, from the perspective of banking operations it is classified as a special credit operation. On the other hand, from the legal perspective factoring is a subject matter of a factoring contract in which one contractual

side (factor) commits to take over short-term receivables from the other contractual side (client), recover these receivables, in its own name and on its own behalf, and then reimburse the counter value to the client within a specified time period and guarantee the payment under certain conditions, while client commits to pay an appropriate fee to the factor.

In the case of severe illiquidity and long maturity, factoring can significantly contribute to successful corporate operations. Insight into the average contractual and realized the date of payment by sector in Bosnia and Herzegovina reveals late payments indicating the need for an improved receivables collection. However, the scope of factoring operations in Bosnia and Herzegovina suggests that the potential is not recognized. Additionally, if we compare the scope of factoring operations in Bosnia and Herzegovina with other countries it is further evident that factoring is not recognized as a funding instrument and liquidity improvement mechanism. Inspired by this, we explore legal and economic opportunities of improving factoring operations in Bosnia and Herzegovina. Research results regarding the impact of factoring operations on corporate liquidity in Bosnia and Herzegovina suggest that companies see quick access to funding as the main advantage of factoring while the main drawback is the high cost of factoring services (Kozarević, Hodžić, 2016, p. 28). In contrast to the other types of financial borrowing which lead to an increase in liabilities side, factoring allows assets-based financing (part of the assets related to the accounts receivables). Thus, indebtedness is not increased, creditworthiness is maintained as well as liquidity, especially in the segment of small and medium enterprises. However, regardless of this, insufficient market recognition of the factoring as a corporate funding source results in the untapped potential offered by factoring operations (Ristić, Rička, 2015, p. 74). The low growth rate of economic activity is contributing to the negative development trend of factoring industry in Bosnia and Herzegovina, as well as the level of local and foreign investments, but also the quality of legal certainty in establishing the protection of factoring operations users (Salihović, 2010, p. 266). Researchers exploring the liquidity management by establishing factoring market in Bosnia and Herzegovina conclude that companies should focus their attention to factoring as a mean of solving a chronic illiquidity issue (Rička, Alihodžić, 2016, p. 307). Finally, international claims recovery represents a significant challenge to the business world given different legal frameworks. Local exporters often agree to unfavorable payment conditions in order to retain international clients, potentially jeopardizing a business. Oftentimes, company headquarters are located in one country, owners in another, while management is positioned in a third country. Furthermore, foreign language, different legal framework as well as mentality can make claims recovery much more difficult. Factoring companies offering payment mediation, payment guarantee services as well as factoring services have the potential to resolve challenges related to international payment recoveries too.

2. Legal sources chronology of factoring operations regulation

The synergy of legal and economic elements within factoring operations leads to impeded access to providing adequate regulatory answers related to the application of existing national rules for classic contracts (sales, cessions, credits, consignment, etc.) In a modern sense, factoring is an institute of American provenance (Martinek, 1991, p. 229). Although it originated and was developed within the American trade practice of agency and consignment operations, it was successful in paving its way to Europe during the early 60ties regardless of many obstacles related to different economic and legal frameworks (Kronke, Melis, Schnyde, 2005, p. 745). Besides national legal interventions, certain discussions and international activities were held under the International Institute for the Unification of Private Law (UNIDROIT) based in Rome, with the goal of mitigating observed difficulties related to cross-

border relations between factoring parties headquartered in different countries. As a result, the Convention on International Factoring (CIF) was adopted in 1988. at Ottawa (Canada). On the other side, countries that were part of the so-called „socialist legal and economic value system" by the late 90ties there was no corresponding legal infrastructure or the awareness regarding the importance of factoring operations for the development of the national economy. As such, factoring operations were only sporadic in former Yugoslavia, although there were technical discussions (for example, expert consulting held in Opatija in 1971.) as well as establishing the legal framework for such operations (Spasić, 1995, pp. 72-74). However, since such a legal framework never came to be, factoring existed as a standalone contract of autonomous trade law in relation to the above-mentioned contracts on sales, cession, and credits.

The lack of regulation within the Law of Obligations meant that factoring is legally treated partly by foreign trade regulations, but also customs, foreign exchange, and tax regulations. Therefore, factoring providers were free to develop their own practice based on existing forms. The state of autonomous regulation lasted until the dissolution of Yugoslavia and the emergence of independent states when the need for a separate legal regulation became clear. The Republic of Serbia was the first to pass the Law on factoring in 2013. The Republic of Croatia passed the Law on factoring in 2014 and amended it in 2015 and 2016. Likewise, the Republic of Montenegro passed the Law on financial leasing, factoring, purchase of receivables, microfinancing, and credit and guarantee operations in 2017. In Bosnia and Herzegovina, the Law on factoring was passed in 2016 but only in the Federation of Bosnia and Herzegovina while in the Republic of Srpske there is still no lex specialis governing this area although in late 2019 there were public discussions on the draft of the law. Hence, factoring operations in Bosnia and Herzegovina are legally regulated in the Federation of Bosnia and Herzegovina. Factoring users in Federation are legally obligated to follow these rules, while the other entity still – the Republic of Srpska, no legal framework exists at the moment.

According to the Law on factoring, factoring operations in Federation of Bosnia and Herzegovina can be carried out by a limited liability company or joint-stock company with the location in Federation of Bosnia and Herzegovina approved by the Banking Agency of the Federation of Bosnia and Herzegovina but also a bank whose business is a subject to banking regulations in Federation of Bosnia and Herzegovina. In the accordance with jurisdiction regarding oversight stipulated by the Law on Banking Agency of the Federation of Bosnia and Herzegovina, the Banking Agency supervises factoring companies operations to verify legality, evaluate security and stability of factoring companies in accordance with the Law on factoring, to protect clients interest as well as public interest, but also contribute to the overall financial stability, and guard the trust in the factoring market. When it comes to the minimum founding capital for factoring operations in Bosnia and Herzegovina, it is above the Croatia and Serbia threshold, and equals to 750,000 BAM, approximately 385,000 EUR.

The minimum initial capital for factoring operations in the Republic of Croatia is 1,000,000 HRK, approximately 135,000 EUR, while in the Republic of Serbia the minimum founding capital is 340,000 EUR. Due to lack of legal regulation of factoring the following discussion will be limited to the scope and application of classic contractual law (sales contracts, cession, credit, etc) in the Republic of Srpska.

Law on factoring in the Federation of Bosnia and Herzegovina defines factoring as the legal act of selling non-matured claims or future short-term cash receivables arising from contractual sales for products or services in the country or internationally, contractually transferred to the factor who is taking over claims to collect receivables in his own name and on its own behalf.

Three sides to factoring (purchaser or factor, vendor or client, and client's obligor) will benefit if a factoring contract is realized successfully. The role of factor belongs usually to banking institutions or specialized institutions whose main or supporting economic activity is factoring. On the other hand, clients entering the factoring contract with a factor are usually private sector subjects (small and medium enterprises) trying to secure uninterrupted cash flow and product placement without additional debt. In contrast, the fee that a factor charges represents a factoring contract cause that establishes a factor's economic interest and can be determined differently depending on the functions performed: taking over unclaimed receivables, lending, *del credere* guarantee, etc. (Brkić, 2011, p. 180). The structure and the value of fees will necessarily depend on the level of costs for services provided by a factor to a client, but also the interest charges for lending the client, as well as the degree of risk regarding the collectibility of such receivables.

Based on factoring contract the client has the obligation to delivery periodically (for example, weekly) receivable invoices to the factor with cession clause included, while the factor takes over the obligation to collect receivables after they are due as well as other activities related to the collection (for example, to request payments, send reminder letters, initiate litigation, etc).

3. Current state and perspectives of factoring operations – international overview vs Bosnia and Herzegovina

According to the latest reports and data published for 2018 (World Factoring Statistics, p. 4) statistics indicate the worldwide growth of factoring operations of 6.5% compared to 2017. The volume of factoring for 2018 is 2,767,067 trillion EUR. Curiously, the volume of factoring operations from 2012. to 2018. grew each year from 2,132,186 trillion EUR in 2012 to 2,767,067 trillion EUR in 2018. Differentiated by continents, the largest increase was made in Europe. Factoring and commercial financing within the European Union grew by 8% in 2018, starting from 1,7 trillion EUR. The following two figures present the monetary value and annual turnover growth for factoring operations in the EU.

Figure 1: Factoring turnover in European Union (2013-2018)
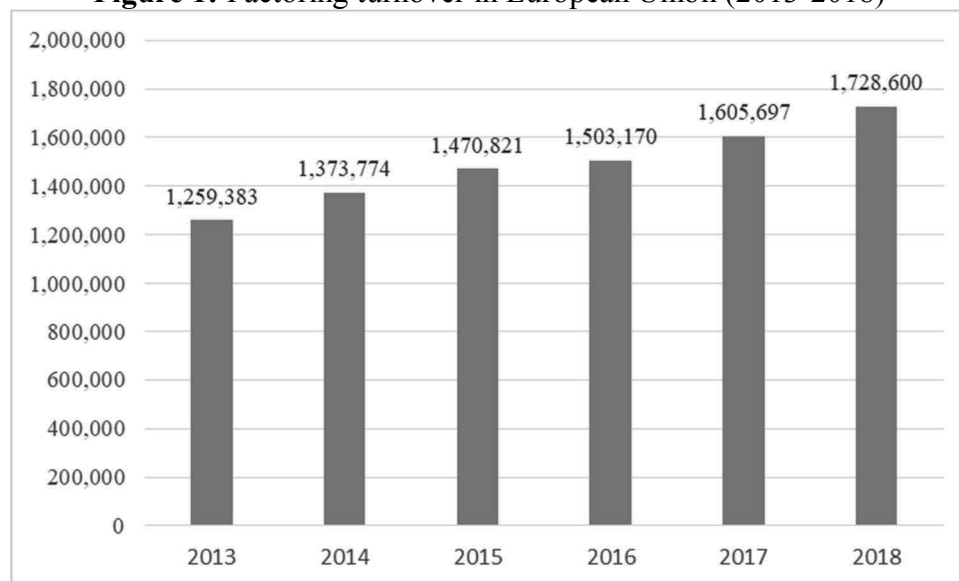
Source: EU Federation for Factoring and Commercial Finance, Newsletter, Annual Review, May 2019, Issue 17, p. 5.

Figure 2: Annual factoring turnover growth in European Union (2013-2018)
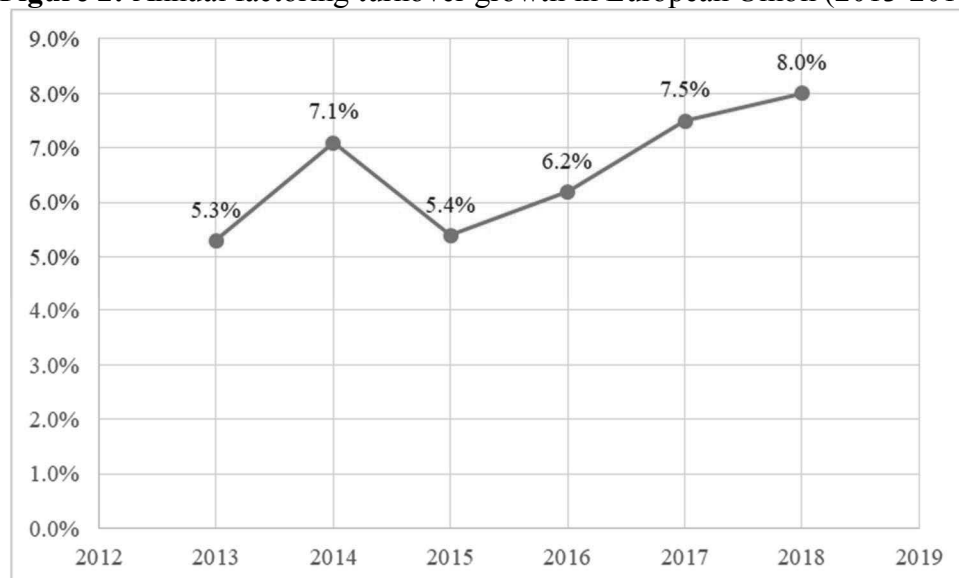
Source: EU Federation for Factoring and Commercial Finance, Newsletter, May 2019, Issue 17, p. 5.

Data on factoring operations turnover in Bosnia and Herzegovina are not available, but among neighboring countries, Croatia and Serbia are listed. Between 2012 and 2019, the largest increase of the factoring operations volume in Croatia was in 2013 amounting to 3,136 billion EUR according to the IFC data. After 2013, the volume is decreasing year over year resulting in an 18% drop in 2018 compared to the previous year, which translates to 246 million EUR in absolute terms.

Table 1: The volume of factoring operations turnover for the past 7 years in Croatia (in mil. EUR)

Year	2012	2013	2014	2015	2016	2017	2018	Decrease 18/17
Croatia	2,269	3,136	2,498	2,885	2,285	1,340	1,094	-18%

Source: World Factoring Statistics: https://fci.nl/about-factoring/2018_World_Factoring_Statistics.pdf (accessed 20 February 2020)

The volume of factoring operations for the same period in Serbia is much more modest. However, in contrast to Croatia, the trend is increasing. Table 2 gives an overview of factoring operations turnover volume for the past 7 years.

Table 2: The volume of factoring operations turnover for the past 7 years in Croatia (in mil. EUR)

Year	2012	2013	2014	2015	2016	2017	2018	Increase 18/17
Serbia	950	679	306	445	555	603	650	8%

Source: World Factoring Statistics: https://fci.nl/about-factoring/2018_World_Factoring_Statistics.pdf (accessed 20 February 2020)

Given that the Law on factoring in the Federation of Bosnia and Herzegovina was passed in 2016, the volume, structure, and trends in factoring operations were analyzed for the period that followed. The table provided below shows that after the Law on factoring was passed only one

subject was registered for factoring operations in the Federation. The subject continued its operations during 2018 and 2019 but was closed by the end of 2019. The initial capital of the company was below the regulatory minimum (750,000 BAM or 383,469 EUR), the turnover was minimal, and the company was making losses.

Table 3: Quantitative data on factoring operations in the Federation of Bosnia and Herzegovina after the Law on factoring (EUR)

Year	31.12. 2017	31.12.2018	31.12.2019
Number of companies	1	1	1
The minimal regulatory capital	383,469	celow minimum	operations closed
Number of factoring contracts	0	2	-
Assets side	-	562,421	-
Factoring short-term receivables	-	357,904	-
Cash and cash equivalents	-	153,388	-
Tangibles and intangibles	-	51,129	-
Liabilities side	-	562,421	-
Tier 1 equity	-	562,421	-
Loss	-	204,517	-
Total Liabilities	-	204,517	-
Short-term liabilities	-	153,388	-
Total revenues	-	4,602	-
Total expenses	-	209,118	-

Source: Autor's calculatiom: https://www.fba.ba (accessed 22 February 2020)

Given that the company was registered late in 2017 it had no factoring operations the same year so the overall volume of factoring operations in 2017 was entirely realized by banks (approximately 179,119,862 EUR). The majority of realized factoring operations (approximately 88.6%) were factoring operations with recourse as a less risky option for banks. That is not surprising given that approximately 77% of factoring operations volume refers to the international factoring operations that are more risky by default. Thus, through factoring contracts in 2017 banks have acquired international receivables amounting to 136,870,280 EUR and contributed to improved liquidity.

Table 4: Ratio of purchased receivables between banks and factoring companies in the factoring system of the Federation of Bosnia and Herzegovina in 000 EUR (2018 vs. 2017)

Factoring type	Factoring companies				Banks			
	2017		2018		2017		2018	
	Amount	%	Amount	%	Amount	%	Amount	%
With recourse	-	-	344	100%	158,747	88.6%	28,555	42.8%
Without recourse	-	-	-	-	20,327	11.4%	38,163	57.2%
Reverse	-	-	-	-	-	-	-	-
TOTAL	**-**	**-**	**344**	**100%**	**179,074**	**100%**	**66,718**	**100%**
Local	-	-	344	100%	42,204	23.6%	66,718	100%
International	-	-	-	-	136,870	76.4%	-	-
TOTAL	**-**	**-**	**344**	**100%**	**179,074**	**100%**	**66,718**	**100%**

Source: Autor's calculatiom: https://www.fba.ba (accessed 22 February 2020)

The volume of factoring operations in banks was significantly decreased in 2018 compared to the year 2017 from 179,074,000 EUR (2017) to 66,718,000 EUR (2018). Furthermore, the

structure of factoring operations was changed as well given that international factoring operations were not realized while having a significant share in the previous year. That being said, the ratio of factoring operations with recourse and without recourse has been reversed compared to the previous period since factoring operations without recourse now dominate (approximately 57%) increasing the risk for a factor.

Table 5: Index and share of purchased receivables at the level of factoring system of the Federation of Bosnia and Herzegovina in 000 EUR (2018 vs 2017)

Factoring type	TOTAL				Index	2017 % share		2018 % share	
	2017		2018						
	Amount	%	Amount	%		Companies	Banks	Companies	Banks
With recourse	158,747	88.6%	28,899	43.1%	18	0%	100%	1.2%	98.8%
Without	20,327	11.4%	38,163	56.9%	188	0%	100%	0%	100%
Reverse	0	0	0	0	-	0%	0%	0%	0%
TOTAL	**179,074**	**100%**	**67,062**	**100%**	**37**	**0%**	**100%**	**0.5%**	**99.5%**
Local	42,204	23.6%	67,062	100%	159	0%	100%	0.5%	99.5%
International	136,870	76.4%	0	0	0	0%	100%	0%	0%
TOTAL	**179,074**	**100%**	**67,062**	**100%**	**37**	**0%**	**100%**	**0.5%**	**99.5%**

Source: Autor's calculatiom: https://www.fba.ba (accessed 22 February 2020)

At the level of factoring system of the Federation of Bosnia and Herzegovina, comprising of a single factoring company and four commercial banks, 99.5% of total factoring volume operations made in 2018 refers to banks while 0.5% refers to the factoring company. The total volume of factoring operations in 2018 as compared to 2017 was decreased by 63%.

Table 6: Ratio of purchased receivables between banks and factoring companies in the factoring system of the Federation of Bosnia and Herzegovina in 000 EUR (1.1.- 30.09.2018 vs. 1.1.- 30.09.2019)

Factoring type	Factoring companies				Banks			
	01.01.- 30.09.2018		01.01.- 30.09.2019		01.01.- 30.09.2018		01.01.- 30.09.2019	
	Amount	%	Amount	%	Amount	%	Amount	%
With recourse	-	-	0	0%	21,618	45.9%	32,407	45.8%
Without recourse	-	-	337	100%	25,434	54.1%	37,344	52.7%
Reverse	-	-	0	0%	0	0%	1,052	1.5%
TOTAL	**-**	**-**	**337**	**100%**	**47,052**	**100%**	**70,803**	**100%**
Local	-	-	337	100%	47,052	100%	70,803	100%
International	-	-	0	0%	0	0%	0	0%
TOTAL	**-**	**-**	**337**	**100%**	**47,052**	**100%**	**70,803**	**100%**

Source: Autor's calculatiom: https://www.fba.ba (accessed 22 February 2020)

Looking at the first three quarters of 2019 compared to the first three quarters of 2018 we observe the increase in the volume of factoring operations realized by banks by more than 50%. A single registered factoring company made its first operations during the last quarter of 2018 and first three quarters of 2019 but made only 0.5% of total factoring operations volume with a decreasing trend of factoring operations absolute value. When it comes to the structure of factoring operations engaged by the factoring company, only local factoring has been treated, having factoring with recourse contracts during the first year, and without recourse (more risky) during the second year.

Table 7: Index and share of purchased receivables at the level of factoring system of the Federation of Bosnia and Herzegovina in 000 EUR (1.1.- 30.09.2018 vs. 1.1.- 30.09.2019)

Factoring type	TOTAL				Index	01.01.-30.09.2018		01.01.-30.09.2019	
	01.01.-30.09.2018		01.01.-30.09.2019			% share		% share	
	Amoun	%	Amoun	%		Companie	Bank	Companie	Banks
With recourse	21,618	45.9%	32,407	45.6%	150	0%	100%	0.00%	100.0%
Without	25,434	54.1%	37,344	53.0%	147	0%	100%	0.89%	99.11%
Reverse	0	0%	1,052	1.5%	200	0%	0%	0.00%	100.00
TOTAL	**47,052**	100%	**70,803**	**100%**	**151**	**0%**	100	**0.50%**	**99.50%**
Local	47,052	100%	70,803	100%	151	0%	100%	0.50%	99.50%
International	0	0%	0	0	*	0%	0%	0.00%	0%
TOTAL	**47,052**	**100%**	**70,803**	**100%**	**151**	**0%**	100	**0.50%**	**99.50%**

Source: Autor's calculatiom: https://www.fba.ba (accessed 22 February 2020)

Besides performing factoring operations with or without recourse in a local factoring market, which was a dominant factoring type in 2018, an additional type of factoring operation was introduced in 2019, so-called reverse factoring, after a single bank realized factoring contract of this type. In 2018 and 2019 factoring providers were not engaged in purchases of receivables related to international factoring, or operations comparable to factoring (the assessment of the financial soundness and creditworthiness of legal entities or self-employed individuals, insurance claims, discounting bills, issuing guarantees, sales of tangibles or intangibles taken as collateral based on factoring operations, etc.)

Looking at the number of factoring contracts after the Law on factoring was passed we observe the decreasing trend. However, the volume of contracts is increasing so the total volume of factoring operations is increased by 50% during the first three quarters of 2019 as compared with the same period of 2018.

Table 8: Number of factoring contracts in the Federation of Bosnia and Herzegovina (2017-2019)

Year	2017	2018	2019
Number of factoring contracts	353	287	244

Source: Banking Agency of the Federation of Bosnia and Herzegovina: https://www.fba.ba (accessed 22 February 2020)

Insight into the maturity structure of purchased receivables during 2017 reveals that receivables with maturity up to 60 days dominate (approximately 80%) while in 2018 and 2019 receivables with maturity between 90 and 180 days were dominant.

Figure 3: The maturity structure of purchased receivables in the Federation of Bosnia and Herzegovina (2017-2019)

	up to 60 days	61 to 90 days	91 to 180 days	over 180 days
■ 2017	81.9%	1.3%	16.8%	0.0%
■ 2018	20.2%	12.4%	67%	0%
■ 2019	23.4%	13.60%	61.8%	1.2%

■ 2017 ■ 2018 ■ 2019
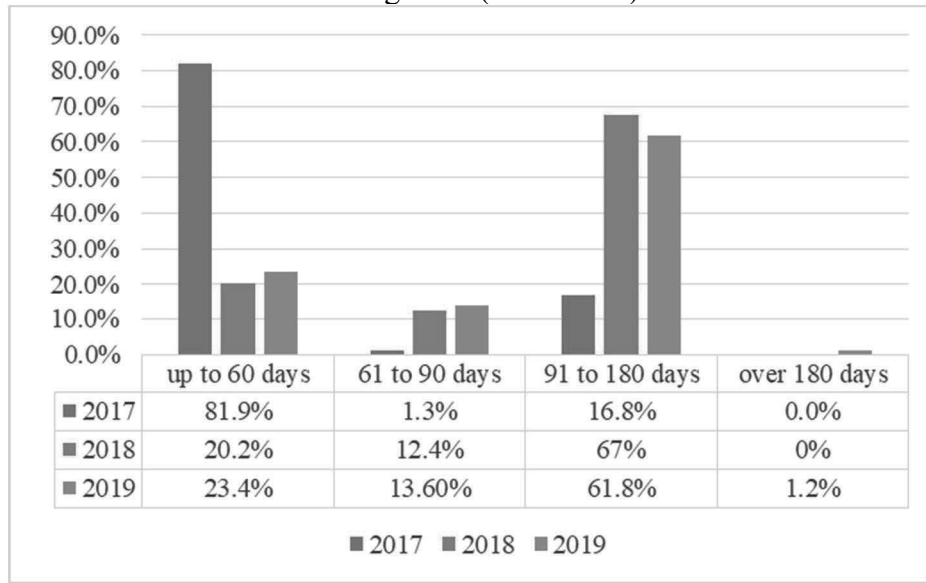
Source: Autor's calculatiom: https://www.fba.ba (accessed 22 February 2020)

The overview of the sectoral structure of purchased receivables indicates that in 2018 public sector receivables dominated, while in 2019 private enterprises receivables dominated.

Figure 4: The sectoral structure of purchased receivables in the Federation of Bosnia and Herzegovina (2018 vs. 2019)

	Public companies	Private enterprises	Other
■ 2018	50.9%	47.6%	1.60%
■ 2019	40.20%	57%	2.80%

■ 2018 ■ 2019
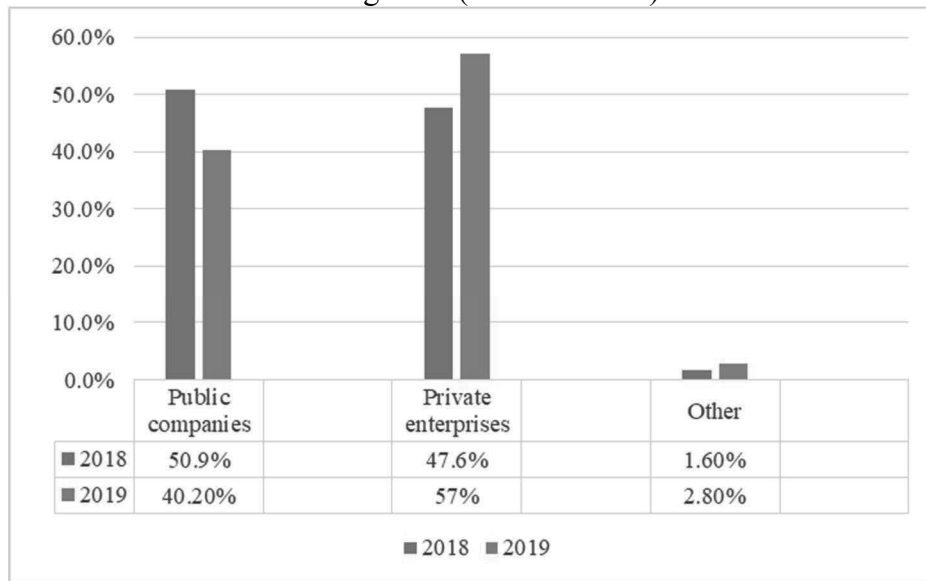
Source: Autor's calculatiom: https://www.fba.ba (accessed 22 February 2020)

Factoring operations in the Federation of Bosnia and Herzegovina within the factoring system comprised of 4 banks and 1 factoring company were performed exclusively through the financing function. No payment guarantee services, receivables management, or operations comparable to factoring were observed, thus confirming that factoring is still in its infancy in the Federation of Bosnia and Herzegovina. The need for short-term financing and cash receivables management, as well as payment guarantees, are cornerstones for considering factoring as one of the most dependable tools for solving liquidity problems.

4. Receivables performances in Bosnia and Herzegovina: potential for improving factoring operations

For the analysis of assets management efficiency - the receivables turnover ratio proves substantial. Companies aim to have this ratio as low as possible, indicating a quicker transformation of receivables into cash. Having insight into the average contractual payment deadlines and average actual payments in Bosnia and Herzegovina by sector (public sector, business sector, consumer sector) we observe late payments averaging between 6 and 12 days in 2019, 8 do 17 days in 2018, and 6 do 9 days in 2017. In 2018 and 2019 late payments were largest on average in the public sector. Comparing with the European Union where the late payments average was between 2 and 9 days it is quite clear that the assets management efficiency is below EU standards. Furthermore, compared with Serbia in 2019 where the range of late payments was up to 5 days on average or Croatia where late payments averaged 7 to 11 days, we can conclude that the late payments average in Bosnia and Herzegovina in 2019 was longer than the EU average, longer compared to Serbia's average, but comparable to Croatia's average.

Table 9: Average contractual vs realized payment time by sectors in Bosnia and Herzegovina and region in days (2017-2019)

Region	Year	Public sector		Business sector		Consumer sector	
		Average contractual payment time	Average payment	Average contractual payment time	Average payment	Average contractual payment time	Average payment
Bosnia and Herzegovina	2017	43	41	40	46	33	42
	2018	50	67	56	70	39	47
	2019	34	46	33	39	16	27
Croatia	2017	35	47	30	44	34	37
	2018	38	44	32	43	22	28
	2019	31	38	31	41	20	31
Serbia	2017	37	41	35	39	40	38
	2018	41	40	33	34	40	33
	2019	36	38	38	43	53	47
Average EU	2017	33	41	32	37	24	24
	2018	34	40	32	34	23	22
	2019	33	42	34	40	21	23

Source: European Payment Report, 2019, p. 26.

Factoring allows optimization of receivables collectibility. Since the receivables collection period suggests a problem in Bosnia and Herzegovina, it should be noted that there is a justified need for funding instruments such as factoring. However, it is quite evident that this need is not met given the scope of factoring operations in Bosnia and Herzegovina. Furthermore, the overview of factoring operations in Croatia shows the decrease of factoring operations scope revealing the negative correlation with increasing late payments time trends. The opposite is true for Serbia given that the scope of factoring operations (albeit modest) shows the increase of volume, with the late payments days decreasing.

Trying to uncover potential sources of late payments, Europan Payment Report 2019 suggests that companies usually cite financial difficulties as the dominant cause, which is also the dominant cause of late payments for the EU region. Furthermore, negative consequences of late payments for companies in Bosnia and Herzegovina are primarily reflected in: (1) revenues decrease, (2) additional interest charges for the missing funds, (3) decelerating growth, (4) decreasing number of employees, and (5) incapacity to hire additional employees. Finally, most of the surveyed companies in Bosnia and Herzegovina believes that the advancements in the segment of receivables collection would help them increase employment compared to the previous year.

5. Conclusions and recommendations

By identifying the quality and performances of the average receivables in Bosnia and Herzegovina we can conclude that there is a significant room for the affirmation of factoring. The average number of late payment days was between 6 and 12 days in 2019, markedly above the average number of late payment days for the EU.

However, insight into trends and the structure of factoring operations reveals that the potential for improving the liquidity of companies in Bosnia and Herzegovina is not being realized through factoring arrangement facilities. Furthermore, the overview of main trends of the factoring operations turnover it is clear that the industry signals positive trends and the increase of turnover each year, especially in Europe. Thus, companies in Bosnia and Herzegovina need receivables collection optimization, but the factoring sector offering is not acceptable for enterprises. The factoring sector in Bosnia and Herzegovina, having a legal framework in just one part of the country (Federation of the Bosnia and Herzegovina), comprises of only 4 banks in 2020. The only factoring company that existed after the Law on factoring has been passed is now closed. The minimum initial capital for factoring companies is significantly above the minimum initial capital in the neighboring Serbia and Croatia indicating the need to reconsider the possibility of lowering the threshold. Additionally, Law on factoring exists only in the Federation of Bosnia and Herzegovina, so it is of major importance to expand the legal framework to the Republic of Srpska as well, and improve existing regulations.

Factoring arrangements, despite the need for the increased pace of cash flows, are not prioritized by companies due to the high costs of such arrangements. The factor charges interest on the advance payment to the receivables vendor until receivables are collected from the buyer. According to the Law on factoring these interests charges must not be higher than the banking interest rate on short-term loans. Furthermore, the factor charges a fee that must not be higher than 2% of the purchased receivables nominal value. The administrative fee can also be a subject of the contractual agreement in factoring that, depending on the account amount, must not be higher than 50 BAM (25.56 EUR) per account, and refers to operational activities related to factoring services.

Evidently, a more flexible approach is needed towards each client individually, taking into account the specifics of each business relationship. The market in Bosnia and Herzegovina needs local, export, and import factoring operations of a higher quality. The concentration of factoring arrangements to just 4 banks out of 19 banks operating in Bosnia and Herzegovina and no factoring companies clearly leaves enough room for factoring operations improvement. Developing financial markets, such as Bosnia and Herzegovina market, liquidity problems address usually through classic credit arrangements. To be more precise, in Bosnia and Herzegovina every cash flow challenge is met by banks via credit arrangements.

Bosnia and Herzegovina exporters, besides strong competition on European and world markets, also struggle with receivables collection. The efficient method of receivables collection is a purchase of receivables, that is factoring, a financial mechanism allowing companies quick and efficient access to capital, sustainable operations, and development of business. Higher quality offerings and utilization of factoring services would allow companies to improve their business and accelerate cash flows. Thus, it is important to affirm factoring as a funding instrument, but also affirm banks from the perspectives of improving the quality of their factoring offerings so companies would be willing to utilize such services, and not disregard them a priori due to high costs.

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A scientific paper

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ECONOMIC AND FINANCIAL CRISIS AND LOCAL GOVERNMENT UNITS' BUDGETS IN CROATIA[1]

ABSTRACT

The European Commission (2020) has stated that there is a challenging road ahead, arguing that a new economic crisis might be coming. This article, then, analyses what happened during the 2008-2009 economic and financial crisis with aggregate local government units' (LGUs) budgets in Croatia so that lessons for eventual possible future crisis might be drawn. The goal is to analyse officially available Ministry of Finance data for all 576 LGUs (20 counites, 428 municipalities and 128 cities) in order to assess the impact of the 2008-2009 crisis on the level and composition of aggregate LGUs' revenues, expenditures, deficit/surplus and debt. The analysis of the 2002-2018 period shows that the crisis had most visible impact in the period 2009-2012 and that as a consequence of the crisis LGUs typically reacted procyclically to their reduced revenues (by cutting expenditures, especially capital expenditures, and controlling deficits and debts). In the event of any future crisis, national government could decide to help LGUs by underpinning economic growth and employment or to control the size of the local government sector. However, Ministry of Finance should first improve local budget transparency by publishing the appropriate data relating to LGUs' finances (their budgets and balances sheets). This article proves that local budget transparency is crucial, as only transparent budgets can be properly analysed and easily monitored, enabling government and citizens to meaningfully participate in improving the efficiency and effectiveness of public policies.

Key words: *local government units' budgets, economic and financial crisis, budget transparency, Croatia.*

1. Introduction and literature review

Numerous experts (e.g. Elliott, 2019; Gurvich, 2019) and institutions such as the European Commission (2020) have recently warned that the world might be heading for a new economic crisis. The 2008-2009 global financial and economic crisis, sometimes characterised as the worst economic crisis since the Great Depression, which started with a collapse of the housing bubble in the USA and the bankruptcy of the investment bank Lehman Brothers, affected LGUs' budgets all over the world (Ladner & Soguel, 2015). The impacts on LGUs' budgets differed, but many of them experienced the "scissors effect" (reduced revenues and increased expenditures on social services), growing public debt and deficit, which negatively impacted

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the quantity and/or quality of their provisions of public services (Council of European Municipalities and Regions, 2008; Davey, 2011; Ladner & Soguel, 2015; OECD, 2010).

The focus of this article is on the impact of the 2008-2009 crisis on LGUs' budgets since they are particularly important and visible to citizens, providing them with essential day-to-day services such as education (kindergartens, schools), health, public transport and social welfare. For example on average in 2006 and 2007 subnational governments in OECD countries represented 15% of GDP, 31% of public spending and were responsible for about 66% of public investments (OECD, 2010).

There is very little research about the impact of this crisis on LGUs' budgets (e.g. Council of European Municipalities and Regions, 2008; OECD, 2010; Davey, 2011; Ladner and Soguel, 2015) and even less so in Croatia (Bajo & Stavljenić, 2017; Davey, 2011; Drezgić, 2010). Drezgić (2010) analysed the impact of crisis on Croatian LGU budgets in the period up to 2010, arguing that the effects of the economic crisis are visible through the fall in their revenues and expenditures, concluding that LGUs simply follow the economic shock and that it seems as the overall effect is pro-cyclical. Davey (2011) analysed the impact of the economic downturn on LGUs across all Europe including Croatia. Bajo & Stavljenić (2017) analysed the impact of crisis on LGUs' indebtedness in the 2010-2015 period, concluding that they violated borrowing constraints (due in large part to borrowing by the City of Zagreb).

The important questions are: (1) did the Croatian LGUs during the 2008-2009 crisis try to cushion its impact on demand and employment by increasing public spending and deficits, or (2) did they try to avoid further deficits by using austerity measures and a withdrawal of investments?

Theoretically, LGUs can react to an economic crisis or they can pretend that it does not exist (e.g. Ladner & Soguel, 2015; OECD, 2010). The LGU that pretends the crisis does not exist, simply relies on automatic budget stabilisers, accepting reduced tax revenues, increased expenditures and higher deficits. Automatic stabilisers work mostly through tax revenues and unemployment and welfare benefits (Dolls, Fuest, & Peichl, 2012). Tax revenues generally depend on household income and economic activity. Since an economy slows during a crisis, household incomes fall and LGUs' tax revenues automatically fall too. Furthermore, as there is a rise in the number of unemployed people and those on low incomes, LGUs' expenditure increases automatically. An LGU that decides to react, has two options: first, a counter-cyclical "Keynesian" policy (further reducing taxes and/or increasing expenditures and deficits in order to encourage economic growth) or secondly, a conservative or pro-cyclical policy (reducing expenditures and possibly increasing taxes in order to control deficits) (Ladner & Soguel, 2015). Drezgić (2010) writes that both Keynesian and neoliberal theories agree that during a crisis government need to use deficit financing and lower taxes, i.e. to run a counter-cyclical policy. Neoliberals argue that such an approach raises allocative efficiency, and Keynesians highlight the positive effects of the short-term stabilisation of aggregate demand management policies.

In order to assess LGU reactions during the 2008-2009 crisis, this article uses the data published by the Ministry of Finance for all Croatian 576 LGUs[2] (20 counties, 428 municipalities and 128 cities) in the period 2002-2018. The data in question relate to the level and composition of LGUs' revenues, expenditures, deficit/surplus and debt. Based on the above-mentioned theoretical underpinnings the hypothesis is that as a consequence of the crisis in most of the

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[2] Regardless of the formal differentiation among the units of local and regional self-government, for the purposes of this article, the term "local government units" covers all 20 counties, 128 cities and 428 municipalities.

LGUs revenues fell and that they reacted by increasing expenditures, deficits and debts. The other hypothesis is that the structure of LGUs' budgets changed, i.e. that as a consequence of the crisis they relied more on national government grants and that they mostly reduced capital expenditures (for non-financial assets).

There is no wonder that there are almost no articles about the impact of 2008-2009 crisis on the aggregate Croatian LGUs' budgets because the important officially published databases needed for such an analysis are incomplete and also of poor quality. Consequently, this article argues that there is a need to improve local budget transparency on the national level, i.e. that the Ministry of Finance has to start publishing better (consolidated, timely and consistent) databases of LGUs' finances (their budgets and balances sheets). Budget transparency implies having an insight into complete, accurate, timely and understandable budget information (Ott, Mačkić, & Bronić, 2018). Along with public participation, it is crucial for good governance as a transparent budget can be properly analysed, and its implementation can be easily monitored, enabling citizens (e.g. legislators, auditors, researchers, media) to analyse the data and participate in improving the efficiency and effectiveness of public policies (e.g. Piotrowski & Vanr Ryzin, 2007; Ríos, Benito, & Bastida, 2017). The Council of Europe in 2011 also argued that in order to overcome the 2008-2009 crisis there was a need for better governance, more transparency and increased public scrutiny in decisions about reduced public resources, increased efficiency across the whole public sector, together with a need to be more aware of the human rights of the most vulnerable families (Davey, 2011).

The rest of this article provides insights into the impact of the 2008-2009 crisis on total LGU revenues and expenditures, the structure of their revenues and expenditures and their debt. It ends with conclusions, limitations and recommendations for further research.

2. Impact on the total revenues and expenditures of the LGUs

Croatia experienced an almost six-year long recession triggered by the 2008-2009 economic and financial crisis, (from the last quarter of 2008, until second quarter of 2014 - Graph 1). Negative growth rates peaked during 2009 and 2010, and after that the recession continued until the second quarter of 2014, but typically with lower negative growth rates.

Graph 1: Croatia gross domestic product – real growth rates (in %)
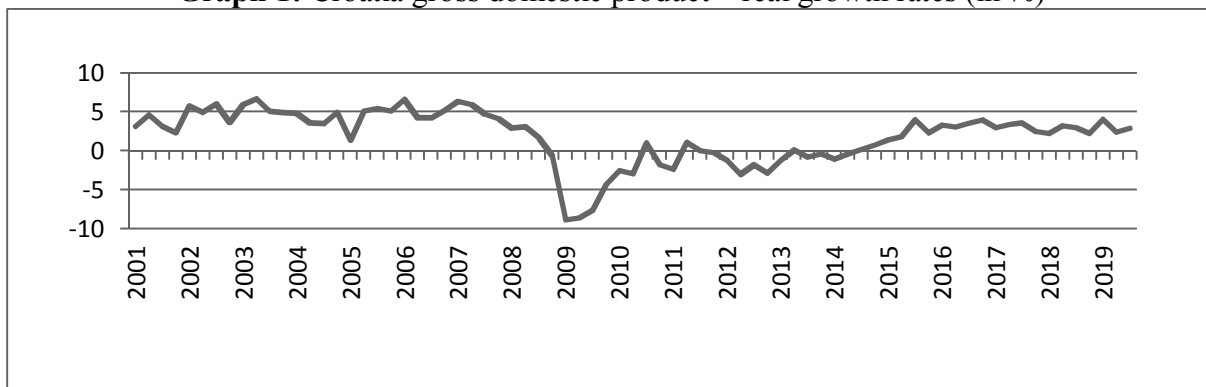
Source: Croatian Bureau of Statistics, 2020.

Similarly, the 6-year period of recession could be nicely presented using employment and unemployment indicators. From the 2008 until the end of 2014 the number of unemployed persons grew, and the number of employed persons in legal entities declined (except during summers – due to tourist seasons).

Graph 2: Croatia employment and unemployment indicators (in 000)

Source: Croatian Bureau of Statistics, 2020.

Now the major challenge for any sort of analysis of the impact of crisis on aggregate LGU budgets before 2016 is the lack of relevant consolidated officially published data and breaks in those data series. Firstly, no officially published consolidated budget data of all 576 LGUs before 2015 exist, only the consolidated budget data of the 53 largest LGUs (Ministry of Finance, 2019). This means that prior to 2015 it is impossible to accurately calculate even the main fiscal decentralisation indicators (such as the percentage of total LGUs' revenues in total general government revenues, or the percentage of total LGUs' total expenditures in total general government expenditures). Secondly, in 2016 the methodology of presenting LGUs' consolidated budget data changed considerably since remunerations and certain benefits to the primary and secondary education employees paid by the Ministry of Science and Education were included in LGUs' budgets. Before that they were included in the national budget. Due to this methodological change, total LGUs' budget revenues in 2016 increased by HRK 7 bn or 22% (Ministry of Finance, 2015, 2016).[3]

The reader should be aware, while bearing in mind the constraints referred to above, that this article is based on the only officially publicly available financial data for all LGUs, i.e. the 2002-2018 nonconsolidated database of 576 LGU budgets and balance sheets (Ministry of Finance, 2020a). But this database does not include LGUs' budget users (e.g. the kindergartens, schools, hospitals and so on majority-financed from LGUs' budgets).[4] The consequence is, that for example, the City of Zagreb budget revenue and receipts without its 328 budget users in 2018 were HRK 7.8 bn, while in fact its total revenues and receipts including all its budget users were HRK 9.8 bn, i.e. were 25% higher (Grad Zagreb, 2019). Furthermore, due to the methodological changes in this database, during the analysed period there were three breaks between periods (2002-2010; 2010-2014; 2014-2018) without any narrative explanation of these changes.

In 2002-2008 period the LGUs' aggregate revenues and expenditures doubled (from around 12 bn to around HRK 25 bn). The crisis stopped this trend and it took the next ten years for LGUs' revenues and expenditures to reach the 2008 levels (Graph 3). The negative impact of the crisis on total LGUs' revenues and expenditures were most noticeable in the period 2009-2012, while

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[3] This change was done for the adjustment with the EU statistical data requirements.
[4] For the list of all LGUs' budgetary and extrabudgetary users see the Register of budgetary and extrabudgetary users (Ministry of Finance, 2020b).

after 2012 it seems that a slow recovery started. Only in 2009 were total LGUs' expenditures significantly higher than their revenues and thus this was the only year when they aggregately reported a high deficit (HRK 1.9 bn). In all other analysed years total LGU revenues were almost the same as their total expenditures, i.e. contrary to our hypothesis LGUs usually did not run high deficits, they had a conservative or pro-cyclical policy (probably reducing expenditures in order to control deficits). This is consistent with the OECD (2010) conclusion of trends in LGUs' reactions to the economic cycles during the past 30 years, presenting evidence that LGUs fiscal policy might usually be pro-cyclical (since their budget deficits are less cyclical than national government deficits and they tend to move more quickly towards balanced budgets after the shock).

Graph 3: Aggregate LGUs' revenues and expenditures, in bn HRK
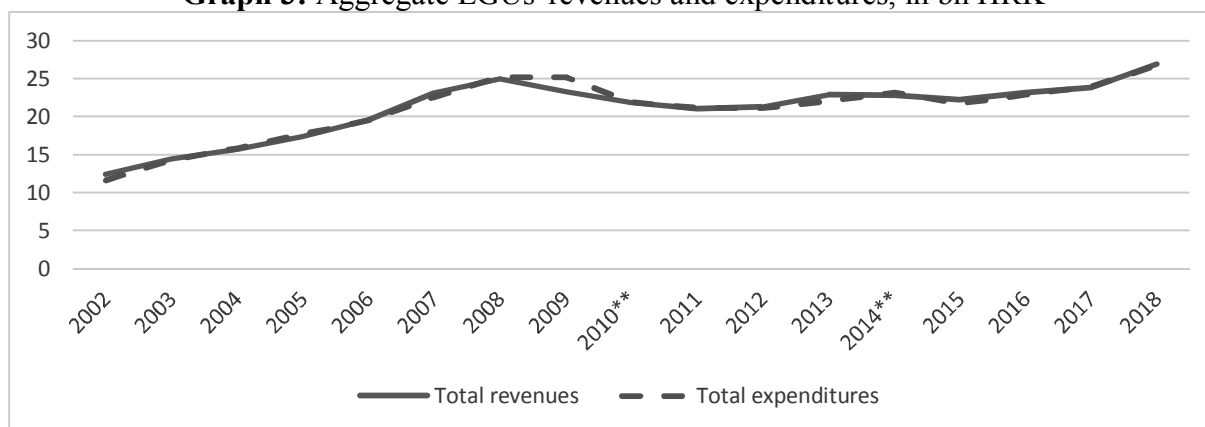
* Receipts from financial assets and borrowing are not included.[5] **Break in database.
Source: Author's calculation based on Ministry of Finance (2020a).

The difference between revenues and receipts and expenditures and outlays can serve as another measure of LGUs' deficit/surplus. Graph 4 shows the same picture as Graph 3, revealing that in most of the analysed years LGUs aggregately did not run bigger deficits/surpluses, i.e. LGUs' revenues and receipts were almost the same as total LGUs' expenditures and outlays. This could be partly explained by the fact that LGUs' fiscal rules (e.g. tax autonomy, balanced budgets and borrowing limits) often restrain debt and lead to pro-cyclical policy (OECD, 2010). In fact in Croatia, the Budget Act (article 7) stipulates that an LGU's budget must be balanced, i.e. that total revenues and receipts must cover total expenditures and outlays. If, during the budget year, expenditures and outlays increase or revenues and receipts decrease the budget must be balanced by identifying new revenues and receipts and/or reducing expenditures and outlays.

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[5] Briefly, revenues and expenditures are related to non-financial, and receipts and outlays to financial transactions. The terms revenues and expenditures are used in the revenue and expenditure account when it comes to business operations and the purchase and sale of non-financial assets, and the terms receipts and outlays are used in the financing account and relate to financial assets and the granting, taking out and repayment of loans (Ott, Bajo, Bronić, Bratić, & Medak Fell, 2009).

Graph 4: Aggregate LGUs' revenues and receipts and expenditures and outlays, in bn HRK
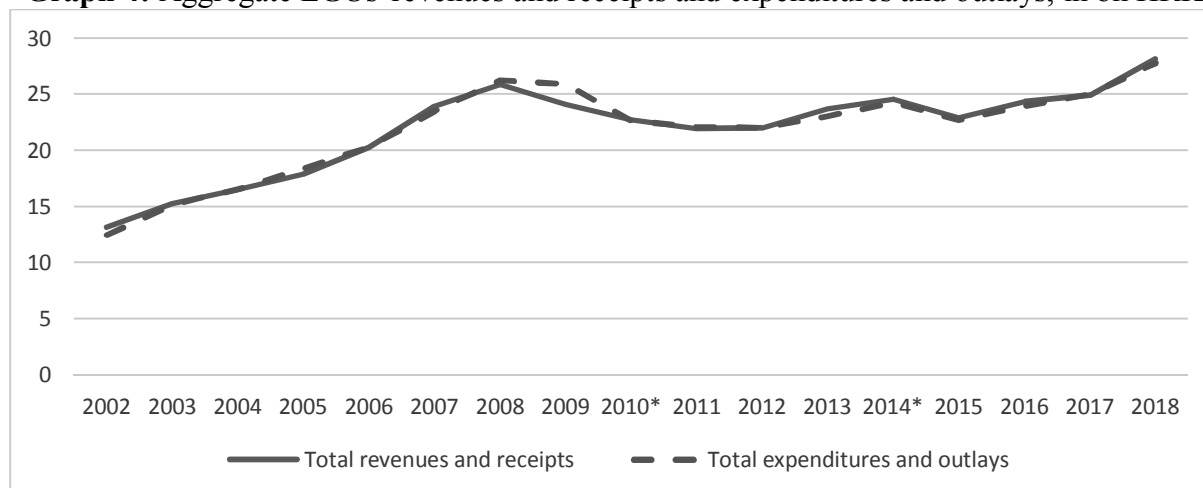
*Break in database.
Source: Author's calculation based on Ministry of Finance (2020a).*

Graph 5 shows that in the 2003-2008 period, the increases in LGU revenues were relatively high, while in 2009-2011 revenues decreased, starting to recover after 2012 (with the exception of cities, especially Zagreb in 2014[6] and 2015). The personal income tax (PIT) reform as well as the changes in PIT revenue sharing between national and local governments effective from 2015 might have had a smaller or larger effect on the City of Zagreb's 2015 revenue[7], but without deeper analysis it is impossible to know exactly. Furthermore, it should be noted that all changes presented in graph 5 should be interpreted with caution since in the entire analysed period there were smaller or greater changes in PIT and the sharing of PIT with LGUs, which could have affected LGUs' revenues aggregately (PIT is the most important LGU revenue source).

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[6] In 2014 City of Zagreb revenues were lower than in 2013, mostly because in 2013 Zagreb received extra tax revenues from personal income tax in the amount of about HRK 0.5 bn on the basis of a ruling of the Administrative Court of the Republic of Croatia on entitlement to an additional share in the personal income tax for decentralised functions (Grad Zagreb, 2015).

[7] The most important PIT changes in 2015 included an increase in basic tax allowance and an extension of the personal income tax brackets. PIT revenue sharing between national and local governments also changed since January, 1, 2015, and as a consequence the share of the City of Zagreb in the total PIT revenues was reduced (Grad Zagreb, 2016).

Graph 5: Annual growth rate of LGU revenues, by type of LGU (%)*
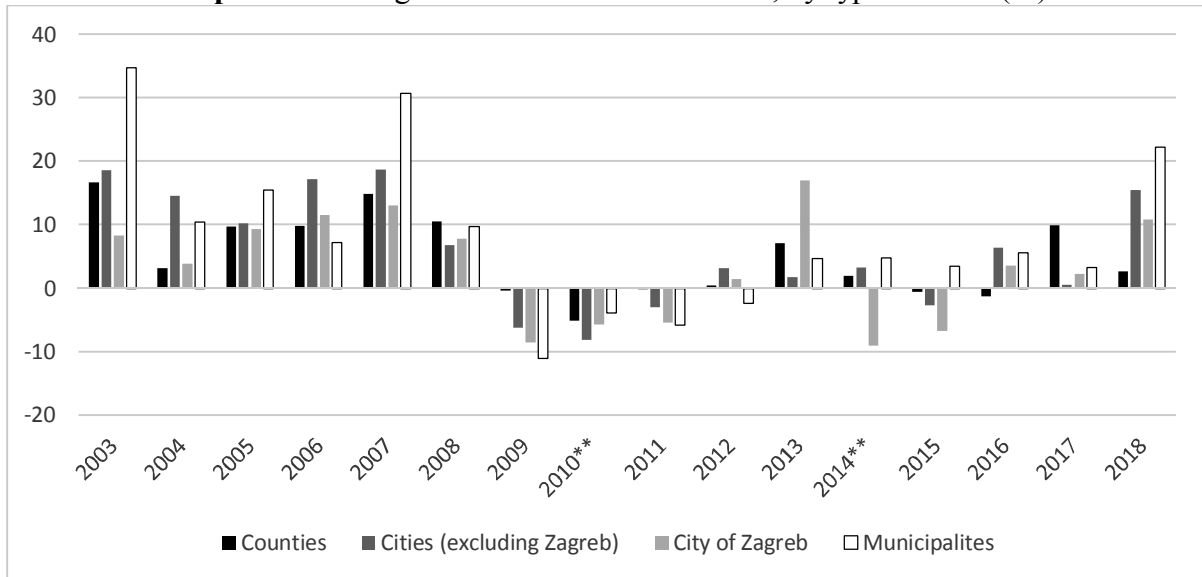
* Receipts from financial assets and borrowing are not included. **Break in database.
Source: Author's calculation based on Ministry of Finance (2020a).

Graf 6 shows that in the 2002-2008 period LGU expenditures increased and that contrary to our hypothesis they decreased in the 2010-2011 period. The biggest LGUs' expenditure cut was in 2010 (i.e. much higher than the decrease experienced relating to their revenues the same year). Since 2013 LGUs' expenditures have mainly increased.

Graph 6: Annual growth rate of LGU expenditures, by type of LGU (%)*
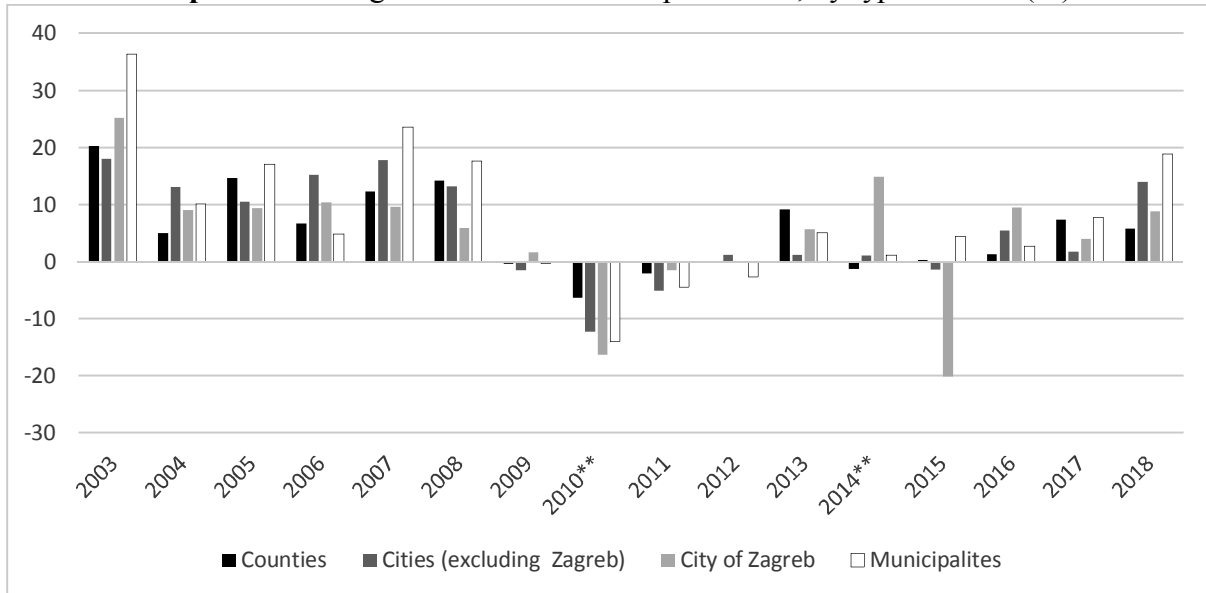
* Outlays on financial assets and loan repayments are not included. **Break in database.
Source: Author's calculation based on Ministry of Finance (2020a).

3. Impact on the structure of LGUs' revenues

Graph 7 shows that in the 2002-2008 period LGUs' revenues almost doubled, from HRK 12.4 to 25 bn. As a consequence of the crisis, in the 2009-2011 period they decreased, after that they were slowly recovering and only in 2018 surpassing the pre-crisis 2008 level (amounting to around HRK 27 bn). In the whole of the 2002-2018 period the most important source of LGUs'

revenues was PIT and surtax, followed by non-tax revenues (especially utility contributions and charges) and grants.

Graph 7: Aggregate LGUs' revenues (economic classification), in bn HRK*
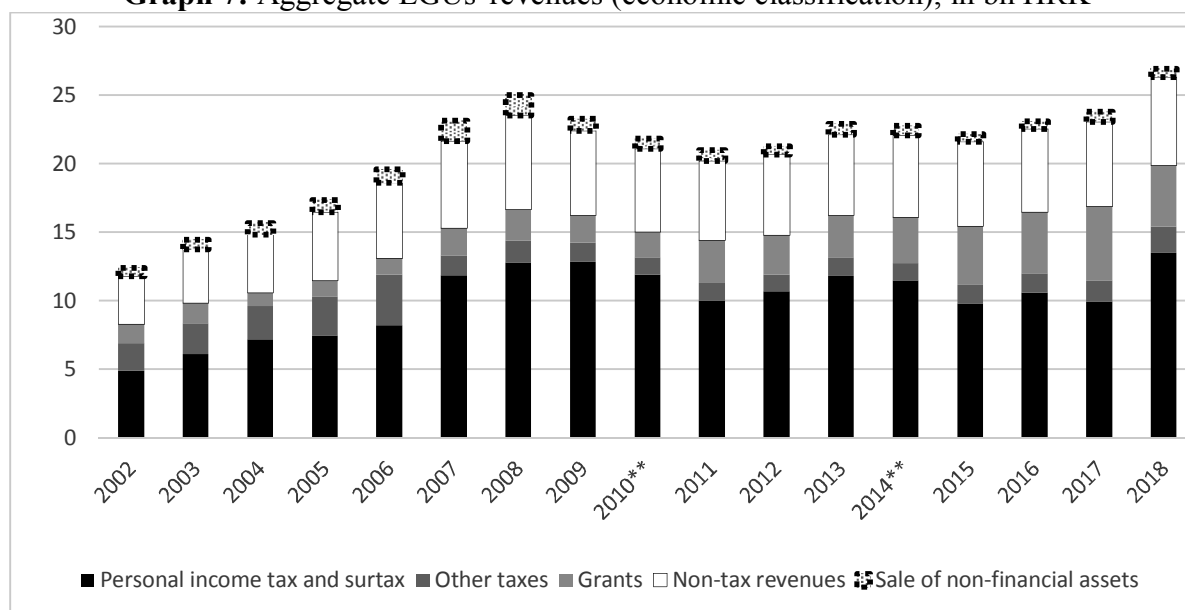
* Receipts from financial assets and borrowing are not included. **Break in database.
Source: Author's calculation based on Ministry of Finance (2020a).

Unexpectedly, it seems that the crisis did not have a significant impact on the structure of aggregate LGUs' revenues (Table 1). Although as a consequence of the crisis (especially since 2011) the importance of grants in LGU financing increased it must be noted that the first reason for this change might be related to methodology changes. Until 2010 grants for decentralized functions[8] were booked under PIT, while since 2011 they are presented as grants. Even the OECD (2010), analysing past trends in LGUs' reactions to the economic cycles, argues that in the past intergovernmental grants did not usually smooth the fluctuations of LGUs' revenues, but often exacerbated them, because spending decisions on the higher government level are sometimes delayed and late. The second reason for this structural change might be that since in 2013 Croatia joined the EU, LGUs started to receive more EU grants, which increased the importance of grants in their revenues, and also helped them to speed up the recovery.

One should also notice significant changes in 2007 (Table 1) when due to the tax reform other taxes fell significantly as revenues from corporate income tax were completely transferred from local to the national budget (before corporate income tax revenues were shared between national budget and LGUs). Furthermore, from 2007 the importance of PIT as a source of LGUs' budget increased, as the national government in that year gave a greater share of PIT revenues to the LGUs. This was actually good for LGUs and probably stabilised their revenues during the crisis, since it is usually argued that in times of crisis corporate income tax revenues fall quicker than PIT revenues (Davey, 2011).

Finally, it must be noted that to the extent it is expected that LGUs will not be able to act contra-cyclically on the revenue side. Croatian LGUs have a very low level of tax autonomy (see e.g. Bronić, 2013; Bronić & Franić, 2014) and as argued by OECD (2010) fiscal rules (including

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[8] Decentralised functions – in 2001 responsibility for part of specific public services (primary and secondary education, health care, social welfare and fire-fighting services) were delegated by government to certain LGUs, for which these LGUs receive additional funding (Ott et al., 2009).

the restrictions on LGUs' powers to increase spending and taxes) often lead to counter-cyclical policy.

Table 1: The structure of aggregate LGUs' revenues, 2002-2018, in %*

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Personal income tax	40	42	46	43	42	51	51	55	55	48	50	52	51	44	46	42	50
Other taxes	16	16	16	16	19	6	6	6	6	6	6	6	5	6	6	6	7
Grants	11	10	6	7	6	9	9	9	8	15	13	13	15	19	19	23	17
Non-tax revenues	28	27	27	29	28	27	27	26	28	28	28	26	26	28	26	26	24
Sale of non-financial a	5	5	5	5	5	6	6	4	3	4	3	3	3	2	3	2
Total revenues	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

* Receipts from financial assets and borrowing are not included. Break in database in 2010 and 2014.
Source: Authors calculation based on Ministry of Finance (2020a).

4. Impact on the structure LGUs' expenditures

Graph 8 nicely shows how LGUs' expenditures peaked in 2008 and 2009 and then fell. LGUs obviously needed some time to react to the crisis as there were no great changes in the level of their expenditures in 2009. It seems that crisis did not have a great impact on the structure of LGUs' expenditures either. Until 2015 they spent most on material expenditures, acquisition of non-financial assets (capital investments) and on employees' salaries. However, since 2015 expenditures for employees, as one of the three most important types of expenditures, were replaced with grants given. The reason for this structural change again comes from methodology changes as remunerations and certain benefits to the primary and secondary education employees paid by the LGUs, before presented as material and employee expenditures, started to be presented as grants to their budget users (kindergartens, schools, etc.).

Graph 8: Aggregate LGUs' expenditures (economic classification), in bn HRK*
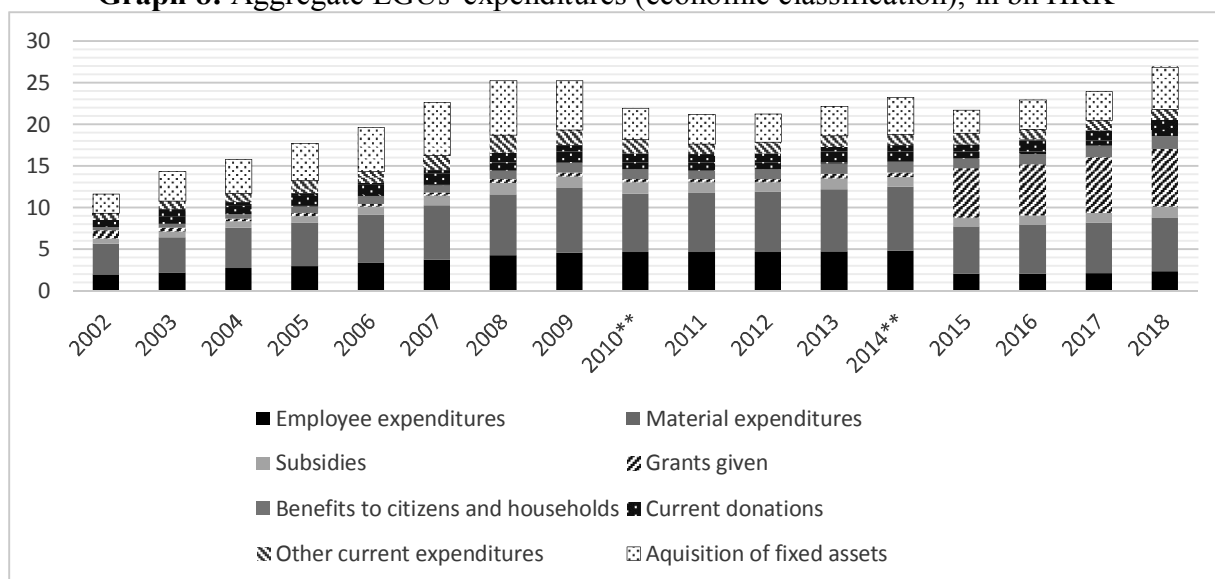
* Outlays on financial assets and loan repayments are not included. **Break in database.
Source: Author's calculation based on Ministry of Finance (2020a).

However, Table 2 shows that the share of capital expenditures (i.e. acquisition of fixed assets) in total LGUs' expenditures since 2008 fell and that not even ten years later did it regain its importance. Drezgić (2010) argues that this seems logical, due to the fact that capital investments are the easiest category to cut from a political perspective, but also that in this way the allocative efficiency of the LGUs is reduced.

Table 2: The structure of aggregate LGUs' expenditures, 2002-2018, in %*

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Employee expenditures	17	16	17	17	17	17	17	18	21	22	22	21	21	10	9	9	9
Material expenditures	32	29	30	29	29	29	29	30	32	34	34	34	33	26	26	25	24
Subsidies	5	5	5	5	5	5	5	6	6	5	5	6	5	5	5	5	5
Grants given	8	3	2	2	2	2	2	2	2	2	2	2	2	27	27	28	26
Benefits to citizens and hous	3	3	3	4	4	4	4	5	5	5	5	6	6	5	5	6	6
Current donations	8	12	9	9	8	8	9	8	9	9	9	9	9	8	8	8	8
Other current expenditures	6	7	7	8	7	8	8	7	8	6	7	6	6	6	5	5	4
Aquisition of fixed assets	20	25	26	25	27	28	26	23	17	17	16	16	19	13	15	15	19
Total expenditures	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

* Outlays on financial assets and loan repayments are not included. Break in database in 2010 and 2014.

Source: Author's calculation based Ministry of Finance (2020a).

5. Impact on the aggregate debt of LGUs

Direct LGU debt is a sum of all budget deficits incurred in the current and in earlier periods financed by borrowing (i.e. credits, loans and security issues) (Ott & Bronić, 2016). Besides the direct debt, there is also a potential debt, consisting of guarantees mostly issued to LGUs' companies and institutions. As there are no available data about LGUs' guarantees for the complete 2002-2018 period, they are not included in this analysis.

The Budget Act (articles 86 -92) stipulates that LGUs may incur short-term debt to fund their regular activities in cases of uneven revenue collection over the year (without having to obtain any consent) and long-term debt for capital investments (the purchase of non-financial assets) with the consent of the relevant local representative body and the national government's approval. Total annual debt service arising from borrowing, for each LGU may not exceed 20% of its revenues realized in the preceding year.[9]

Although in the 2008-2014 period the direct LGUs' debt increased from HRK 2.6 to 4 bn, the greatest increase actually happened in 2014 when in one-year it increased by almost HRK 1 bn (Graph 10), mostly due to the increase in direct debt of the City of Zagreb (as Zagreb bought the former Gredelj Rolling Stock Factory and "Zagrepčanka" from Zagreb Holding for around HRK 0.9 bn (Grad Zagreb, 2015)).

Graph 10: Aggregate LGU direct debt, in bn HRK
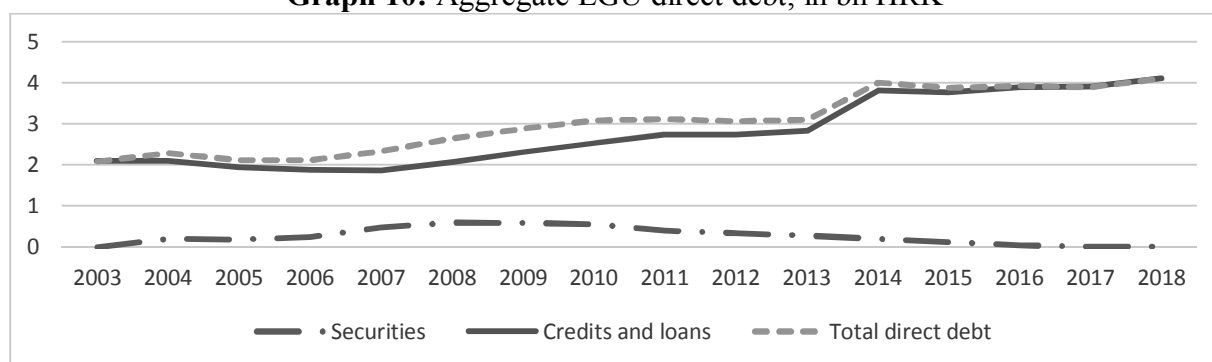
Source: Author's calculation based on Ministry of Finance (2020a).

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[9] LGUs' borrowing is additionally regulated by other rules and legislation. Thus, the annual national budget execution acts set the overall annual limit for borrowing of all LGUs (e.g. for 2020 overall annual limit for all LGUs together amounts to 3% of their total operating revenues in 2019). For more details about LGUs' borrowing see Ott and Bronić (2016).

It could be argued that LGUs have been constrained in borrowing as a consequence of the crisis due to the relatively rigid borrowing rules. Drezgić (2010) rightly points to the problem with the LGUs' borrowing rules, which are primarily focused on static indicators. For example, total annual debt service arising from borrowing, for each LGU, may not exceed 20% of its revenues realized in the preceding year. However, the problem occurs when as a consequence of the crisis the amount of the repayments usually remains the same as in the previous period while revenues are falling, which might cause liquidity problems and lead to some LGUs breaching the 20% limit. In fact, Bajo and Stavljenić (2017) show that in the 2010-2015 period Croatian LGUs were sometimes borrowing without the consent of the national government and breaking above mentioned borrowing limits. They also claim that for the City of Zagreb – because of its dual status of city and county – borrowing should be defined separately, since it is not only the single biggest borrower, but is also most often breaking the national government's borrowing rules.

6. Conclusion

This article analyses the response of Croatian LGUs to the 2008-2009 economic crisis, hypothesizing that as a consequence of the crisis, revenues in the majority of LGUs decreased and that they reacted by increasing their expenditures, deficits and debts. However, analysed aggregate nonconsolidated data shows that LGUs reacted to the fall in their revenues mostly pro-cyclically (cutting expenditures, running moderate deficits, and not incurring too much debt). This might be explained by the rigid fiscal rules imposed on LGUs (low tax autonomy, balanced budget requirements and strict borrowing limits) which often restrained their indebtedness and resulted in a pro-cyclical policy.

It was expected that the structure of LGUs' budget would have changed as a consequence of the crisis, i.e. that they relied more on national government's grants and that they greatly reduced capital expenditures (for non-financial assets). The analysis showed that LGUs did reduce capital expenditures, but that they did not rely more on national government grants. National government was not particularly helpful in LGUs' coping with the crisis, but luckily, in 2013 Croatia joined the EU, and LGUs started to receive more EU grants which helped them to speed up the recovery.

In the event of some future, similar crisis, national government will have to decide between underpinning economic growth and employment or controlling the size of the local government sector. In the first case, to help LGUs national government should act more contra-cyclically, relaxing some LGUs' fiscal rules (e.g. borrowing limits, giving more tax autonomy) or introducing some short-term measures (e.g. increasing discretionary grants to finance LGUs' investment projects that would not be financed otherwise, temporarily increasing LGUs' share in tax revenues). In addition, national government could immediately opt for territorial reorganisation (particularly solving the problems of small LGUs with inadequate fiscal capacity), increasing the efficiency of LGUs and helping them to cope better with some potentially new crisis.

This article proves that local budget transparency is crucial for any meaningful analysis and decisions, as only transparent budgets can be properly analysed and easily monitored, enabling government and citizens to improve the efficiency and effectiveness of public policies. Thus, the major limitation in any kind of LGU budgets analysis especially before 2016 is the lack of credible officially published data. The nonconsolidated LGU budget and balance sheet data used in this analysis are lacking data about LGUs' budget users (e.g. kindergartens, schools, hospitals), resulting in an underestimation of LGUs' revenues and expenditures. It certainly has

an impact on the structure of the analysed LGUs' revenues, expenditure, deficit/surplus and debt. Accordingly, one of the most important conclusions of this article is that it is necessary to improve budget transparency on the national level, i.e. the officially publicly available LGUs' budget and balance sheet databases. Thus, the Ministry of Finance should finally start publishing the consolidated budget and balance sheet data of all 576 LGUs, of all their budget users and of all the guarantees they issued.

This article also clearly points to another important limitation of the analysis, the numerous methodological changes (breaks) in the Ministry of Finance's database without the appropriate narrative explanations. The researchers might try and might even find some explanations in some other sources; however, one cannot be sure that those are correct explanations, which poses the dilemma whether something could be explained by methodological changes or whether there might be some other causes of the changes. Accordingly, the Ministry of Finance should always give a narrative explanation of all methodological changes (breaks) in the databases that they are publishing.

Knowing how LGUs aggregately reacted to the crisis could inspire further investigations of the reactions of individual LGUs and the usefulness of their actions in the short and long term. Davey (2011) rightly pointed out that there is no one-size-fits-all solution and that LGUs' policy responses depend and should depend on their numerous differences (e.g. are they big or small, rich or poor, how efficient are their institutions). Also, more research could be done analysing how tax reforms or methodological changes have affected LGUs' revenues. However, the main prerequisite for any competent research in this field is the availability of appropriate official data.

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THE EFFECTIVENESS OF UNCONVENTIONAL MARKETING IN THEATRES: TOP MANAGEMENT THEATRE PERSPECTIVE

ABSTRACT

Cultural institutions in the Republic of Croatia, specifically theatres, which are in focus of this research paper, are struggling to find the best way to approach and attract audiences, in particular the young audience (Generation Y). Unconventional marketing is not unidirectional, but multidirectional and the proof is that it cannot only be beneficial for theatres, but also for other cultural institutions. By using unconventional marketing, theatres and other cultural institutions can build an audience and, in general, raise the awareness of the role cultural institutions play in the economic development of the country. The aim of the paper is to identify those theatres that are successful in applying unconventional marketing in their business activities. For this purpose, research was conducted on national and city theatres of the Republic of Croatia. After the online data collection process, bivariate statistical methods were applied to test for differences between theatres with and without experience in performing unconventional marketing. An online questionnaire was filled out by theatre management. Theatres are divided into groups of those who have (n = 11) and do not have (n = 30) experience applying unconventional marketing methods in business. Mann-Whitney test results show that those theatres that implement unconventional marketing methods in their promotional activities are more capable of tailoring promotional activities to target groups, especially Generation Y, which is designated as a target group. A statistical difference was also found in the rating of high innovation application (U = 86.5, p <0.05) and the conduct of research (U = 42.5, p <0.001) of those theatres using unconventional methods. The use of innovation in promotion, as well as continuous investment in audience development, are prerequisites for the development of a theatre program for Generation Y and Z.

Key words: *Audience development, unconventional marketing, non-parametric statistics, theatres, research methodology.*

1. Introduction

Research studies aimed at examining the effectiveness of different strategies in creative industries sectors are necessary to bring the industry, which is in the institutionalization phase, closer to younger people, as well as to target groups selected by companies. Theoretical considerations about creative industries start by establishing definitions, and one possible definition states that "creative industries mean copyright-protected production, encompassed by projects that create (in)tangible products and services intended for exchange on the market" (Horvat, Mijoč and Zrnić, 2018, 14-15). In 2015, mapping of creative industries in the Republic of Croatia was made (Rašić Bakarić, Ivana; Bačić, Katarina; Božić, Ljiljana), as well as a proposal for future organization of creative industries, based on twelve sectors. One of the 12 proposed sectors is performing arts, in which theatres are champions of the sector.

This paper contributes to a theoretical explanation of past theatre marketing studies, as well as to overview of definitions of unconventional marketing. The paper analyses a study conducted on theatre marketing professionals ($n = 41$) in Croatia. The research is aimed at examining the implementation of promotional activities by theatres. Theatres are divided into two groups: theatres that have ($n_1 = 11$) and theatres that do not have ($n_2 = 30$) experience in applying unconventional marketing methods. Nonparametric statistical methods were used to explore the implementation of unconventional marketing in theatre promotion and adaptation of promotional activities of theatres to targeted groups.

2. Defining marketing in culture

Heilbrun et al. (2001), Hill et al. (2003), Boter (2005), Bilton (2010), Carls (2012) and Baumgarth et al. (2014) claim that cultural institutions started using marketing in the 1970s with the aim to inform the public about upcoming events and to bring art closer to the audience. That was much simpler in those days because marketing was used only for one-way communication – to transfer certain information. Art that was shown in theatres, museums and other cultural institutions was considered a better form of entertainment than the popular forms of entertainment (e.g. television) and it was implied for such art to be financially supported and attended by audience. According to Kolb (2013), marketing in culture was developed from the artists' need to attract audience and to finance further work because artists were unable to finance themselves; on the other hand, Carls (2012) claims that marketing in culture was created from classic marketing of services.
Meler (2006) defines marketing in culture as a business concept of cultural institutions whose aim is to satisfy the consumers' needs with their cultural products and thus achieve the institutions' missions and their general social objectives. According to Klein (2011), the core of marketing in culture is being able to see things from the consumers' perspective in order to satisfy their cultural needs, and according to Hill et al. (2003) and Henze (2014), the most important thing in this process is creativity.
Carls (2012) indicates that marketing in culture has to be concerned with both current and potential audience, and that this approach should be implemented constantly and strategically.
According to these definitions, it can be concluded that marketing in culture is concerned with the needs of current and potential visitors in order to understand and satisfy their needs for cultural products. According to Buljubašić et al. (2016), the main task for managers in the field of marketing in culture is working on presentation and popularization of cultural and artistic achievements and also encouraging people's contact with art.

3. Definition and previous studies

3.1. Theatre marketing

One of the first marketing studies, conducted by the Ford Foundation to establish the impact of ticket prices and other factors (such as visitors' incomes) on theatre attendance and audience, dates back to 1974. Other authors explored the same topic in the 1980s and 1990s. Withers (1980), Levy-Garboua and Montmarguette (1993) and Gapinski (1986) looked into ways how leisure substitutes, such as reading, cinema, and recreation affect audience attendance of theatre performances. On the other hand, Bonato (1990) investigated the impact of visitors' education on theatre attendance. Felton (1989) studied the effects of ticket prices on theatre subscribers and non-subscribers, and Thorsby (1989) analysed the impact of the quality of theatre plays on attendance. More recently, Walmsley (2012) looked into the motivation that attracts visitors to theatres, Leko Šimić and Biloš (2017) explored the use of websites to attract the young target audience to the theatre, and Besana et al. (2018) investigated the impact of social media promotion on theatre attendance.

Raduški (2013) believes that the main concept of marketing in the theatre is defined by the management, depending on theatre type (national, regional, urban, music, children's, etc.) and management principles (administrative, managerial, project or entrepreneur). The type of theatre has no significant impact on creativity in marketing, merely setting certain frameworks and target groups, while the management principle is of crucial importance in this respect. On the other hand, marketing can and should have a positive impact on the theatre's business and help the management build the principles of organization and management, production, overall business, and the general image of the theatre, define the sales and marketing programmes, the public relations concept and advertising campaign, create repertoire politics, visiting programs, tours and participation at festivals, and define the course of the theatre's research and development.

According to Kerrigan et al. (2004), business tactic is the essence of marketing in theatres. This implies the tactic of successful selection of marketing tools and the manner of communication with the environment. Lukić (2010) claims that marketing in theatres is the procedure of selling tickets or services to the viewer (the consumer). The same author asserts that marketing in theatres uses tools such as promotion, advertising, public relations and audience relations.

The above author hypothesises that theatre marketing is based on sales but also on successful communication with the viewers, which ultimately can contribute to attracting viewers and selling tickets and services. In order to have a successful marketing plan, every person working in marketing in the theatre needs to have precise answers to the questions above. These answers can raise awareness of the state of marketing in the theatre and provide better guidelines for future marketing activities and future marketing plan. Also, according to Chytkova et al. (2012) theatre has a very important role in tradition.

3.2. Defining unconventional (guerrilla) marketing

The term "guerrilla" originates from the military tactics of the famous revolutionary Che Guevara (Biography, 2014). Specifically, it is derived from the Spanish word for "war" and denotes an irregular form of warfare in which small and independent groups use military tactics to fight larger and less mobile armies (Hæreid and Indregård 2015, 19). The word "guerrilla" originates from Spanish and means "small war" (Hutter et al., 2013) or war fought by small independent armed groups outside of the regular army (Anić, 2000). According to Schulte (2007), the word "guerrilla"

represents a group that uses aggression to implement their beliefs and ideologies. In 1983, with the release of "Guerrilla Marketing" by Jay Conrad Levinson, the "father" of guerrilla marketing, the public was introduced to a new revolution in marketing, a revolution that presented two ideas: a) marketing does not have to be expensive to be successful, and b) selling is the easiest job in the world.

Today, guerrilla marketing is the subject of interest for many scientists (and practitioners such as entrepreneurs, managers, etc.), but Hutter et al. (2011) and Kuttelwascher (2010) find that it has not yet been sufficiently analysed scientifically. According to Anlager et al. (2013) and Baack et al. (2008), guerrilla marketing is a synonym for unconventional marketing. Mentioned change of the marketing paradigm through efficiency and effectiveness in the absence of a significant sum of capital and empowered small businesses as well as those that have already established their market dominance. Guerrilla marketing has penetrated all fields and spheres of marketing activities, including culture. Nowadays, guerrilla marketing is also considered to be an art and is based not only on a grand idea, but also on the fact that it is capable of connecting with a well-defined target market. Guerrilla marketing is based on creative marketing, and the key to creative marketing is an intelligent and cunning strategy (Levinson, 2008).

Typical guerrilla marketing strategies are provocative (Levinson, 1984), unexpected (Schwarzbauer, 2009), catchy (Huber et al., 2009), rebellious (Meier, 2014), untraditional (Sandber et al., 2006) and unusual. They cause surprises in unexpected situations and in unexpected places to impressively create interest in one's surroundings. Bruhn et al. (2009), Baartizan (2009), Omar et al. (2009), Prevot (2009), Emsdetlener (2001), Andrews (2011) and Serazio (2009) also lay an emphasis on the effect of surprise. Levinson (2008), Patalas (2006) and Jäckel (2007) consider guerrilla-marketing campaigns to be funny, witty and spectacular.

Unconventional marketing aims to surprise people (to replace the sarcastic eye rolling with a mouth wide open in surprise (Margolis et al., 2008, 16)) and requires exceptional creativity and innovation. It can give cultural institutions a great and unsurpassed advantage, security in an uncertain market, and speed and ease of communication with the users of their services. Unconventional marketing strives to shock (Jurca, 2010) and change entrenched assumptions about marketing (Cova and Saucet, 2014). The business philosophy of unconventional marketing is to achieve maximum results with minimum costs.

The most important difference between conventional and unconventional marketing is the state of mind. The fundamental idea of guerrilla marketing, as the name itself suggests, originated from guerrilla warfare in which atypical tactics were used to achieve goals. In his book "Guerrilla Warfare", written in 1960, Che Guevara defined guerrilla tactics as achieving victory over the enemy using the effect of surprise (Huber et al., 2009) and tactical flexibility (it is necessary to suddenly and unexpectedly attack a place where an attack is least expected, in a way that is not expected, and to very quickly withdraw from the place (Lukić, 2010)). In French, as well as in Croatian, this kind of warfare is often referred to as partisan warfare (Dukić et al., 2012).

The new strategy of guerrilla marketing called "small budget, big results" helped small and medium-sized enterprises by providing an innovative way of promotion during the 1980s crisis in the United States (Hutter et al., 2011). Ever since then, this strategy of guerrilla marketing and this

marketing trend have helped small and medium enterprises maintain a positive cash flow in their business.

According to Chen (2011), guerrilla marketing helped small and medium-sized enterprises in the 1980s fight against large corporations that dominated the market. Small and medium enterprises were able to transmit the right information to the target audience using guerrilla marketing. Ay et al. (2010) claim that, with the help of guerrilla marketing, companies strive to form a kind of marketing management that is dynamic and sensitive to consumers' needs. Guerrilla marketing is a different and alternative way of thinking (technique or method) that achieves conventional goals by unconventional methods and prefers extensive energy and imagination over a large budget (Buljubašić, 2015). Furthermore, by analysing Croatian marketing professionals in a research study, Buljubašić et al. (2016) found that 63% of cultural institutions have never or rarely use unconventional marketing in their promotional activities.

Definitions of guerrilla marketing by all the above authors are obviously similar, defining it as unexpected, personalised marketing and the opposite of traditional marketing. Such marketing seeks to achieve and maximise conventional goals by using unconventional methods and a smaller budget.

Based on previous research findings, the authors test four hypotheses of the paper and draw conclusions about the hypotheses:

H_1: There are differences regarding the implementation of unconventional marketing in Croatian theatres.

H_2: Increasing the recognisability and visibility of the theatre is the main reason for using unconventional marketing to promote the theatre.

H_3: There is a difference between promotional activity of the theatre and customised promotional activity of the theatre intended for the target group.

H_4: Lack of understanding of unconventional marketing is a major obstacle when it is used for promotional purposes in the theatre.

4. Research methodology

The aim of the paper is to better understand unconventional marketing, i.e., to identify ways in which it can be useful in promotional activities of the theatre. The paper examines the effectiveness of those theatres that are more successful in applying unconventional forms of marketing. The research is based on an empirical study of national and city theatres in the Republic of Croatia. According to the Register of Theatres maintained by the Croatian Ministry of Culture, there are five national and 28 city theatres operating in Croatia. The target group are creative professionals employed in marketing departments of theatres. Data were collected between December 2018 and February 2019. The data are analysed using methods of descriptive statistics and nonparametric statistics.

The instrument used for data collection was a highly structured online questionnaire divided into four segments, which was designed using the SurveyGizmo tool. SurveyGizmo estimated that it takes an average of 13 minutes to complete the questionnaire. Since this is a specific group of creatives, the questionnaire was completed by 44 respondents, and 41 respondents met the criteria for further analysis (more than 90% of the answers given).

In the first part of the questionnaire, the focus was on demographic and business characteristics (10 questions). The second part of the questionnaire put the emphasis on promotional activities of the theatre (27 questions), while the third part of the questionnaire addressed standpoints about the audience (19 questions). The fourth part of the questionnaire was related to questions about unconventional marketing (24 questions).

Table 1: Sample description

Variable	n	%	Variable	n	%
Gender			*Education background*		
Men	13	31.7	Economics	30	73.2
Women	28	68.3	Arts	6	14.6
Education level			Technical	2	4.9
High school	2	4.9	Other	3	7.3
Two-year university degree	4	9.8	*Marketing department*		
Four-year university degree	25	61.0	Yes	37	90.2
Master's degree	10	24.4	No	4	9.8

Source: authors

The sample on which the study was conducted consisted of 68.3% of female respondents and 31.7% of male respondents. The majority of respondents (95.2%) have a college or university degree, mainly in the social, economic (73.2%) and art sciences (14.6%). More than 90% of respondents identified themselves as employees in the marketing department.

Table 2: Sample description – job title

Job title	n	%		Cumulative %
Director of promotion/sales	22	53.66		53.66
Marketing associate	9	21.95		77.61
Head of public relations	8	19.51		97.12
Theatre director	2	4.88		100.00

Source: authors

More than half of the respondents (53.66%) are employed as directors of promotion/sales, while others declared themselves as marketing associates (21.95%), heads of public relations (19.51%) and theatre directors (4.88%).
Nonparametric statistical procedures chi-square test and Mann-Whitney U test were used for hypotheses testing.

5. Results and discussion

The research hypotheses focus on the analysis of the implementation of unconventional marketing approach in business activities (Table 3).

Table 3: Previous application of unconventional marketing in the theatre

	n	%	Cumulative %
Yes	11	26.80	26.80
No	10	24.40	51.20
Don't know	20	48.80	100.00

Source: authors

The results show that the majority of theatre marketing professionals (73.2%) did not use unconventional marketing methods in the implementation of promotional activities. These results indicate that there are differences in the implementation of unconventional marketing in theatres, and that this marketing approach is still not included in the promotional strategies of theatres (H_1). Following these results, theatres were divided into groups of those that had ($n_1=11$) or did not have ($n_2=30$) experience in applying unconventional methods in business. In order to identify statistically significant differences between the two groups of theatres with regard to the use of specific methods of promotion, chi-square test was performed (Table 4).

Table 4: Results of the performed chi-square tests

Method of promotion		Unconventional method used in theatre		Test-statistics
		Yes (%)	No (%)	
TV	Yes	0.0	100.0	$p > 0.05$
	No	23.3	76.7	
Radio	Yes	45.5	54.5	$p > 0.05$
	No	46.7	53.3	
Print media	Yes	54.5	45.5	$p > 0.05$
	No	46.7	53.3	
Posters	Yes	72.7	27.3	$p > 0.05$
	No	50.0	50.0	
Leaflets in mailboxes	Yes	54.5	45.5	$p > 0.05$
	No	30.0	70.0	
Friends' recommendations	Yes	81.8	18.2	$p > 0.05$
	No	50.0	50.0	
Notification by email	Yes	90.9	9.1	$\chi^2 = 8.389$,
	No	40.0	60.0	$df = 1, p < 0.01$
Internet (search)	Yes	90.9	9.1	$\chi^2 = 9.478$,
	No	36.7	63.3	$df = 1, p < 0.01$
Social networks	Yes	90.9	9.1	$\chi^2 = 4.197$,
	No	56.7	43.3	$df = 1, p < 0.05$

Source: authors

The identified differences are present precisely in those methods of promotion that are characteristic of unconventional marketing approach: notification by email ($p < 0.01$), the Internet ($p < 0.01$), and social networks ($p < 0.05$). For statistically significant differences, it is observed that those theatres that have experience in applying unconventional marketing methods apply the analysed methods of promotion to a greater extent than the theatres that have not previously had experience in applying unconventional marketing methods. These results further confirm the H_1 hypothesis.

Since the H_2 hypotheses focuses on analysing the reasons for using unconventional marketing methods, Table 5 presents the results of the first group of theatres, that is, those that use unconventional marketing methods.

Table 5: Reasons for using unconventional marketing

	Mean	Std. Deviation
Desire to increase the recognisability and visibility of the institution.	4.64	0.505
Originality and creativity of unconventional marketing.	4.60	0.516
Potential visitors remember this type of promotion longer.	4.50	0.707
Unusualness of unconventional marketing.	4.50	0.707

	Mean	Std. Deviation
This type of promotion is more likely to be noticed by potential visitors.	4.30	0.675
Lack of funding for a conventional marketing campaign.	4.27	0.786
Ease of conducting unconventional marketing campaigns.	4.00	0.667
Education of marketing staff for unconventional marketing.	3.80	0.632
Desire to change the audience structure.	3.36	1.286

Source: authors

The reason *Desire to increase the recognisability and visibility of the institution* stands out with the highest average rating of 4.64, and the average rating of *Originality and creativity of unconventional marketing* of 4.60 indicate the main reasons for implementing unconventional marketing. The lowest average ratings indicate that education of employees about unconventional marketing (3.80) and change of audience structure (3.36) are the variables that are least cited as reasons for using unconventional marketing.

In order to test the H_3 hypothesis, nonparametric Mann-Whitney U-test was used, and statistically significant difference between the two groups of theatres was tested with regard to the application of specific principles and business strategies.

Table 6: Determinants of the theatre business (Mann-Whitney U test)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Mann-Whitney U	137.5	106.5	86.5	128	42.5	38	61.5
Wilcoxon W	602.5	571.5	551.5	593	507.5	503	526.5
Z	-0.877	-1.919	-2.424	-1.37	-4.045	-4.023	-3.387
Asymp. Sig. (2-tailed)	0,381	0,055	0,015	0,171	0	0	0,001
Exact Sig. [2*(1-tailed Sig.)]	.424[b]	.085[b]	.019[b*]	.287[b]	.000[b***]	.000[b***]	.002[b**]

a. Grouping Variable: Do you use unconventional marketing methods b. Not corrected for ties.
(1) – promotional activities, (2) – Social networks, (3) – Creative innovations, (4) – Outsourcing, (5) – Marketing research, (6) – Customised promotional activities towards target groups, (7) – Customised promotional activities towards Generation Y
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$
Source: authors

The results of Mann-Whitney U test show that theatres that apply unconventional marketing methods within their promotional activities are more able to adapt promotional activities to target groups (U = 38, p < 0.001), especially Generation Y (U = 61.5, p < 0.01), which is identified as the target group, and the H_3 hypothesis is not rejected. A statistically significant difference was also found in the rating of high creative application of innovation (U = 86.5, p < 0.05) and of conducting research for the purpose of marketing (U = 42.5, p < 0.001) of those theatres that apply unconventional methods.

Table 7: Assessing the obstacles to (non) use of unconventional marketing (Mann-Whitney U test)

	(1)	(2)	(3)	(4)	(5)
Mann-Whitney U	64.5	55.5	108.5	99	136
Wilcoxon W	119.5	110.5	163.5	154	191
Z	-2.92	-3.277	-1.496	-1.759	-0.467
Asymp. Sig. (2-tailed)	0.003	0.001	0.135	0.079	0.641
Exact Sig. [2*(1-tailed Sig.)]	.006[b**]	.002[b**]	.198[b]	.116[b]	.678[b]

a. Grouping Variable: Do you use unconventional marketing methods. b. Not corrected for ties.
(1) – Lack of experience and knowledge, (2) – Lack of creativity, (3) – Conservative leadership, (4) – Scepticism, (5) – Fear of damaging the image of the institution
** $p < 0,01$
Source: authors

Two statistically significant determinants have been recorded when identifying significant obstacles to (non) use of unconventional marketing methods in theatre operations. The results of Mann-Whitney U test have shown that lack of knowledge and experience ($U = 64.5$, $p < 0.01$), and lack of creativity ($U = 55.5$, $p < 0.01$) are statistically significantly different between the two groups of theatres. This confirms the lack of understanding of the use of unconventional marketing methods in theatre promotion by the group of theatres that have not decided to take this business approach.

6. Final considerations

The application of unconventional marketing methods in the theatre business in the Republic of Croatia is undergoing a strengthening process. *The aim of the paper was to find the differences between those theatres that are successful in applying unconventional marketing in their business activities.* Although most theatres in the Republic of Croatia have not implemented unconventional marketing strategies in their business activities, it was determined that increasing recognisability and visibility of theatres is one of the main factors for using unconventional marketing methods in theatre promotion. Those theatres that have implemented forms of unconventional marketing in their business are more able to adapt promotional activities to target groups, but also to younger age groups (Generation Y). Lack of knowledge and experience, and lack of creativity in the application of unconventional marketing are identified as the main obstacles to its use. Research limitations are reflected in the inability to compare each theatre with its target audience. Further study of the effects of different marketing strategies on specific groups of visitors is needed. The sample frame should also be improved and include other employees in theatres that have the possibility to make decisions.

Unconventional marketing has great market potential based on innovative and creative ideas that will interest younger age groups, as well as develop strategies to attract target groups. The paper identifies the factors that affect successful implementation of unconventional marketing in theatres, and given the lack of science-based research, it is necessary to develop new mechanisms for implementing unconventional marketing methods for business purposes. This paper provides a basis for future research, as well as for identifying important influences for better understanding of unconventional marketing in theatres.

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POTENTIALS OF ACTIVE TOURISM IN THE AREA OF SLAVONIA AND BARANJA

ABSTRACT

On the basis of human needs, motives, leisure time and financial independence among tourists there is a desire to travel and vacation. Nowadays, "sun and sea" are not strong enough factors to attract tourists to the destination. Because of that, tourist are increasingly turning to active vacation in the destination by consuming sport recreational, cultural, eno and gastro activities. Taking into account the current trends and the opening up of markets, especially towards the Far East countries, the potential for tourism development on the continent of the Republic of Croatia and/or Slavonia and Baranja, opens up the possibility of significant growth and development of continental tourism.
The main objectives of this paper are to define existing activities, infrastructure, human resources, available financial resources and key stakeholders in active tourism in the area of Slavonia and Baranja.
The primary data obtained by the research and the existing secondary data will be used in the paper.
The results of this paper will be reflected in the review of the entire offer of the activities in field of active tourism, elaboration of guidelines for further development of active tourism in Slavonia and Baranja and for creation of new products and services in active tourism.

Key words: potentials, active tourism, Slavonija and Baranja.

1. Introduction

According to the information available by the UN World Tourism Organisation International (in continuation of tekst UNWTO) the number of tourist arrivals (overnight visitors) grew 4% in the period since January to September 2019. compared to the same period last year, with mixed performance among world regions. The Middle East (+9%) led growth followed

by Asia and the Pacific and Africa (both +5%). Europe (+3%) and the Americas (+2%) enjoyed a more moderate increase.[1]

Also according to the UNWTO, the reasons of weighed on growth in international tourism. are global economic slowdown, trade tensions and rising geopolitical challenges, social unrest, Brexit and lower business confidence.[2]

In line with positive consumer trends in tourism:

- Travel „to change" (live like a local, quest for authenticity and transformation,
- Travel „to show" (instagramable moments, experiences and destinations)
- Pursuit of a healthy life (walking, wellness and sports tourism)
- Rise of the „access" economy
- Solo travel and multigenerational travel (as a result of aging population and single households)
- Rising awareness on sustainability (zero plastic and climate change).[3]

Croatian tourism quite slowly following the global tourist trends and adapting to them.

Despite to the slow adaptation of the consumers trends in tourism, Croatian tourism is still achieving great results.

According to eVisitor data, in 2019 the number of arrivals of foreign tourists amounted to 18,267,166 (growth of 4.4%), while at the same time 2,424,455 arrivals of domestic tourists (growth of 9.0%) were recorded. Over the same period, there were 94,812,813 overnight stays of foreign tourists (an increase of 1.7%) and 13,830,741 overnight stays of domestic tourists (an increase of 7.6%). The total (foreign and domestic) arrivals in 2019 amounted to 20,691,621 (an increase of 4.9%), while at the same time 108,643,554 nights (an increase of 2.4%) were recorded.[4]

Active tourism is a new travelling philosophy that combines adventure, ecotourism and cultural aspects of a discovery tour. Active Tourism is low-impact, ecological, socially compatible and high quality. Active Tourism aims to combine recreation, education and bring benefits to both the tourist as well to the visited land. Active Tourism has many aspects in common with ecotourism and nature tourism and it also integrates some activities of action and adventure tourism.[5]

The data on discovering the potentials in active tourism in the region od Slavonia and Baranja collected for this research was for 2019, which is a representative sample of 108 respondents aged 25-48+. The survey was conducted between March 5 and April 1, 2019 via a link to a survey questionnaire, which was available on a social network (Facebook) in the recreational and athletic group, and through the author's personal contacts with the respondents. Segmentation within the group of domestic active recreational athletes was performed on a 15-item scale. In addition to the descriptive analysis, segmentation was performed according to the motives and expectations described by the sociodemographic variables. The conclusions obtained in the section based on the research are expressed at the end of the paper, together with the proposed methods for further development additional sports content and infrastructures in accordance with the attitudes and preferences of domestic active recreational athletes.

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[1] https://www.e-unwto.org/doi/abs/10.18111/wtobarometereng.2019.17.1.4 (accessed 11.3.2020.)

[2] Ibid.

[3] Ibid.

[4] https://www.evisitor.hr (accessed 07.02.2020.)

[5] http://www.cpe.vt.edu/mpd.htmsocialmedia/htmscialmdia2011procedngs.pdf (accesed 15.02.2020.)

2. Research methods

Appropriate scientific methods (inductive and deductive method, method of abstraction, descriptive method, descriptive statistics and sample method) were used in the paper in order to achieve a high-quality analysis of the defined subject and to further the knowledge on the explored topic. The paper discusses theoretical issues; therefore, the dominant method of research is the study of professional and scientific literature on tourism. Additionally, analysis of attitudes, motives and expectations of domestic active recreational athletes in regard to the further development additional sports content and infrastructures was conducted. Descriptive statistics were used to summarize a given data set. As mentioned, segmentation of domestic domestic active recreational athletes based on an 15-statement scale was conducted.

3. Analysis of the current state of tourism in Slavonia and Baranja

In this part of the paper we will analyze the continental tourist region of Slavonia and Baranja..
The territory of Slavonia and Baranja is divided between five counties: Vukovar-Srijem county , Osijek-Baranja county , Požega-Slavonia county, Virovitica-Podravina county and Brod-Posavina county.

Picture 1: Map of the Republic of Croatia (Slavonia, Baranja and Srijem)

Source:
https://www.google.hr/search?q=map+of+slavonia+and+baranja&safe=active&sxsrf=ALeKk01kEzHZrJ-ZrIp10q3YbWP0KfwIvg:1584526459090&source=lnms&tbm=isch&sa=X&ved=2ahUKEwiktuyF5aPoAhXWEc AKHS99CSkQ_AUoAXoECAwQAw&biw=1920&bih=888#imgrc=6I05v79iNUJaEM (accessed 20.03.2020.)

According to the Picture 1. region Slavonia and Baranja is the located in the eastern part of Republic of Croatia.

Table 1: Arrivals of domestic and foreign tourists in Slavonia and Baranja county (from 01.01.2018. to 31.12.2019. year)

Tourists	Arrivals 2019	Arrivals 2018	Indeks of arrivals
Domestic	69.924	62.121	112,56
Foreign	41.272	38.294	107,78
Total:	**111.196**	**100.415**	**110,74**

Source: Authors processed and adjusted to the internal data of the Tourist Board of Osijek-Baranja county (accessed 15.03.2020)

Regarding the number of arrivals in comparison with 2018, it was recorded the increase of 10.7%, and in 2018 Osijek Baranja county has visited 111,196 tourists.

Table 2: Overnights of domestic and foreign tourists in Slavonia and Baranja county (from 01.01.2018. to 31.12.2019. year)

Tourists	Overnights 2019	Overnights 2018	Indeks of overnights
Domestic	137.859	118.600	116,24
Foreigners	96.262	83.687	115,03
Total:	**234.121**	**202.287**	**115,74**

Source: Authors processed and adjusted to the internal data of the Tourist Board of Osijek-Baranja county (accessed 15.03. 2020)

The Osijek-Baranja county recorded a record 234,112 nights in 2019, which is compared with 2018 a significant increase of a 15.7%.

Table 3: List of the first 25 countries (out of a total of 88 countries) from which tourists are coming to region od Slavonia and Baranja since 2016 to 2019 year

Country	Overnights 2019	Overnights 2018	Overnights 2017	Overnights 2016
Croatia	137.861	118.600	113.070	110.292
Germany	13.242	12.443	10.377	8.709
Serbia	6.869	5.795	5.281	4.386
Bosnia and Herzegovina	6.774	4.803	5.057	6.339
Slovenia	5.191	5.589	5.010	4.594
Other African countries	4.971	793	4.724	3.955
Hungary	4.648	5.499	4.391	6.078
USA	4.321	5.441	3.680	3.158
Austria	4.273	3.425	3.560	4.088
Italy	3.687	4.433	2.772	2.209
Poland	3.450	3.674	2.619	1.639
United Kingdom	2.872	1.912	2.215	1.510
Chezc Republik	2.520	2.297	2.198	2.678
France	2.412	1.773	2.085	1.895
Australia	2.138	2.315	1.938	1.060
Romania	1.898	1.515	1.871	1.097
Ukraine	1.870	1.346	1.438	2.520
Netherlands	1.850	2.012	1.359	1.619
Switzerland	1.842	1.723	1.235	638
Macedonia	1.539	1.408	1.069	802
Slovakia	1.480	1.531	883	610
Bulgaria	1.290	1.097	876	937
Canada	1.214	1.455	860	413
Spain	1.135	923	846	620
Sweden	1.000	608	720	653

Source: Authors processed and adjusted to the internal data of the Tourist Board of Osijek-Baranja county (accessed 15.03.2020)

Regarding the number of overnights stay the largest number comes from domestic tourists. In 2019 it was 137.861 overnights.

The most frequent domestic tourists in Slavonia and Baranja are tourists from the city of Zagreb (42.000) and tourists from Zagreb county (11.800), after them comes tourists from Split-Dalmatia county , Primorje-Gorski Kotar county and Istria county.

The largest number of nights in 2019, after domestic tourists, is realized by tourists from Germany (13.242), Serbia (6.869), Bosnia and Herzegovina (6.774), Slovenia (5.191), etc.

Table 4: Tourism turnovers (domestic and foreigners arrivals) by the Tourist Boards in 2019

Tourist Board	Domestic arrivals	Comparison of domestic arrivals	Indek domestic arrivals	Foreigners arrivals	Comparison of foreigners arrivals	Indeks arrivals foreigners	Arrivals total	Comparison arrivals total	Indeks arrivals total
Tourist Board of the city of Osijek	41.784	35.544	117,56	24.534	21.839	112,34	66.318	57.383	115,57
Tourist Board of Baranja	5.624	6.246	90,04	4.696	5.108	91,93	10.320	11.354	90,89
Tourist Board of the city of Đakovo	5.841	5.503	106,14	4.010	3.453	116,13	9.851	8.956	109,99
Tourist Board of Municipality Bilje	6.075	5.514	110,17	3.011	3.083	97,66	9.086	8.597	105,69
Tourist Board of the city of Našice	3.816	3.497	109,12	2.010	1.726	116,45	5.826	5.223	111,55
Tourist Board of Osijek-Baranja County	2.307	1.718	134,28	1.019	858	118,76	3.326	2.576	129,11
Tourist Board of the city of Valpovo	1.865	1.747	106,75	676	1.143	59,14	2.541	2.890	87,92
Tourist Board of the city of Donji Miholjac	773	978	79,04	432	376	114,89	1.205	1.354	89,00
Toursit Board of Municipality Bizovac	906	605	149,75	267	104	256,73	1.173	709	165,44
Tourist Board of Municipality Erdut	377	363	103,86	306	228	134,21	683	591	115,57
Tourist Board of Municipality Draž	411	244	168,44	235	244	96,31	646	488	132,38
Tourist Board of the city Belišće	138	158	87,34	68	120	56,67	206	278	74,10
(Unknown)	7	4	175,00	8	12	66,67	15	16	93,75
Total :	**69.924**	**62.121**	**112,56**	**41.272**	**38.294**	**107,78**	**111.196**	**100.415**	**110,74**

Source: Authors processed and adjusted to the internal data of the Tourist Board of Osijek-Baranja county (accessed 15.03.2020)

Reagarding to the Table 4. the largest number of arrivals (domestic and foreign tourists) in 2019 is made by the Tourist Board of the city of Osijek (66.318). After then comes Tourist Board of Baranja with 10.320 arrivals, Tourist Bord of the city of Đakovo with 9.851 arrivals, Tourist Bord of Municipality Bilje with 9.086 arrivals etc.

4. Analysis of the results of research into the potential for further growth and development of active tourism in the area of Slavonia and Baranja

The questionnaire was filled in by 108 respondents aged 25 - 48+ from 14 counties (County of Bjelovar-Bilogora, county of Brod-Posavina, city of Zagreb, Istrian county, county of Lika-Senj, county of Međimurje, Osijek-Baranja county, county of Požega-Slavonia, Primorsko Goranska county, Split-Dalmatia county, county of Virovitica-Podravina, Vukovar-Srijem county, Zadar county, Zagreb county) in the Republic of Croatia.

Graph 1: Gender of respondents
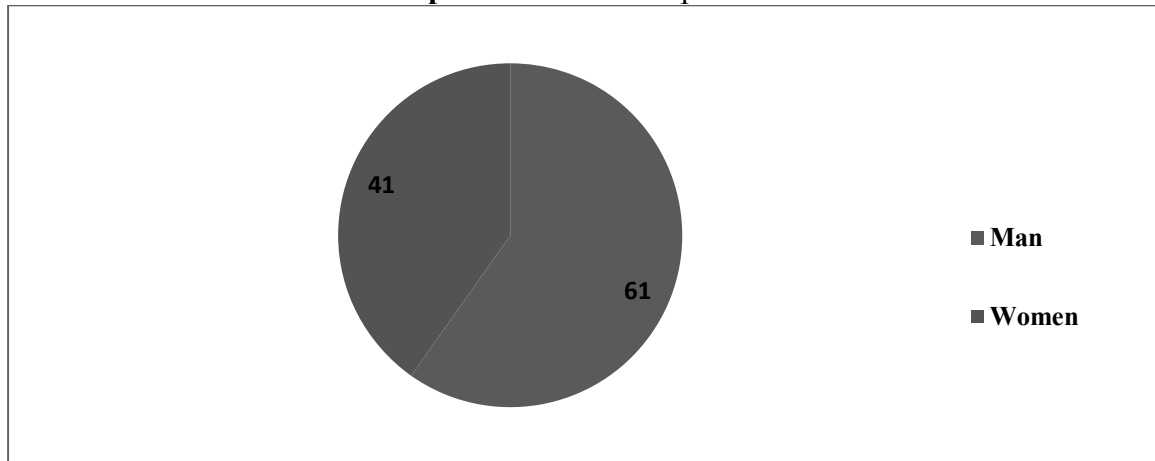
Source: authors

According to the Graph 1. the 61 of respondents are mens and 41 of respondents are womens.

Graph 2: Age of respondents
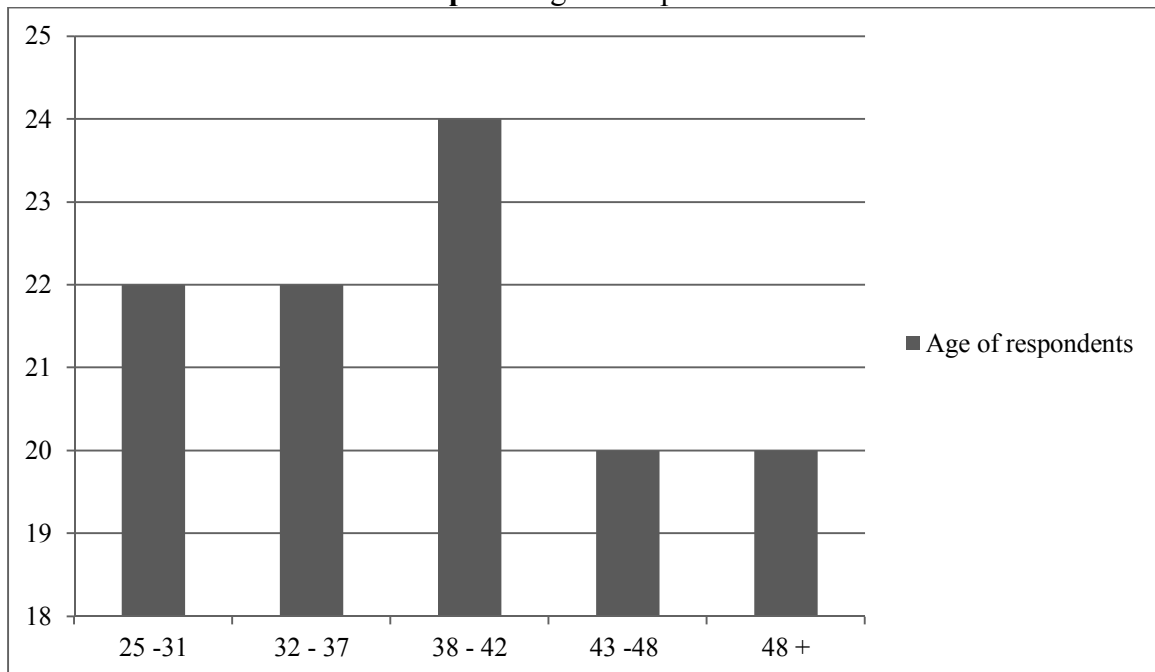
Source: authors

According to the Graph 2. the 24 of respondetns are in age since 38 to 42 years, 22 of respondents are in age since 25 to 31 years, 22 of respondetns are in age since 32 to 37 years, 20 of respondents are in age since 43 to 48 years and 20 of respondents are in age since 48 +.

Graph 3: Counties from which respondents came
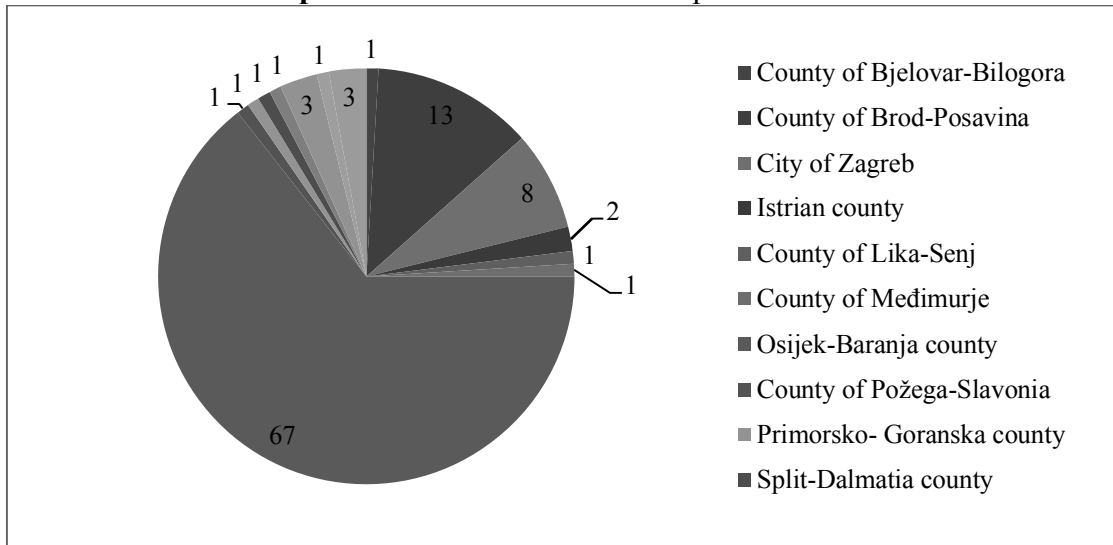
Source: authors

According to the Graph 3. Counties from which respondents came the 67 of respondents comes from Osijek, 13 of respondents comes from county of Brod-Posavina, 8 respondents comes from city of Zagreb, 6 respondents comes from Virovitica-Podravina county, 3 respondents comes from Vukovar-Srijem county, 2 respondetns come from Istrian county, 1 respondent comes from county of Bjelovar-Bilogora, 1 respondent comes from county of Lika-Senj, 1 respondent comes from county of Požega-Slavonia, 1 respondent comes from county Primorsko-Goranska, 1 respondent comes from Split-Dalmatia county and 1 respondent comes from Zadar county.

Graph 4: Motives for coming to Slavonia and Baranja in terms of consuming active tourism content
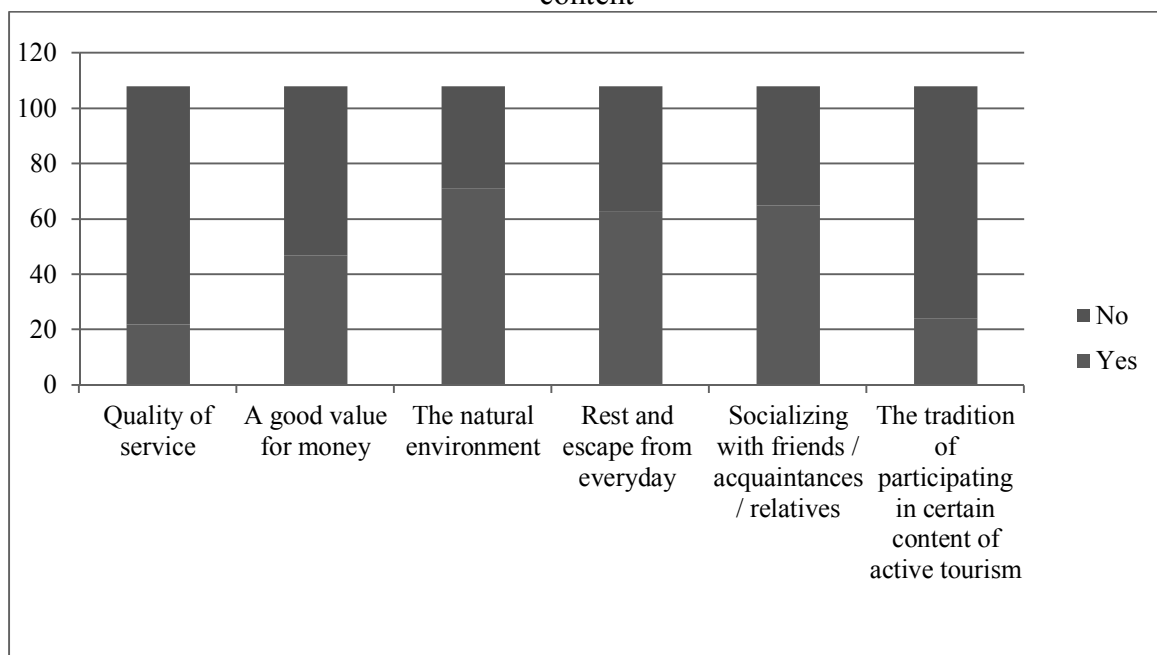
Source: authors

According to the Graph 4. Motives for coming to Slavonia and Baranja in terms of consuming active tourism content, for the 22 respondents the Quality of service is the motive for their arrivals, while for 86 respondents it is not, motive for 47 respondents is A good value for money, while for 61 respondetns it is not, for the 71 respondents The natural environment is the main motive of arrivals, while for 37 respondents it is not, for the 63 respondents motive for arrivals is Rest and escape from everyday life, while for 45 respondents it is not, for the 65 respondents motive for arrivals is Socializing with friends / acquaintances / relatives, while for 43 respondents it is not, the motive for the arrivals of 24 respondents is the Tradition of participating in a certain content of active tourism, while for 84 respondents it is not.

Graph 5: Consumption of other contents
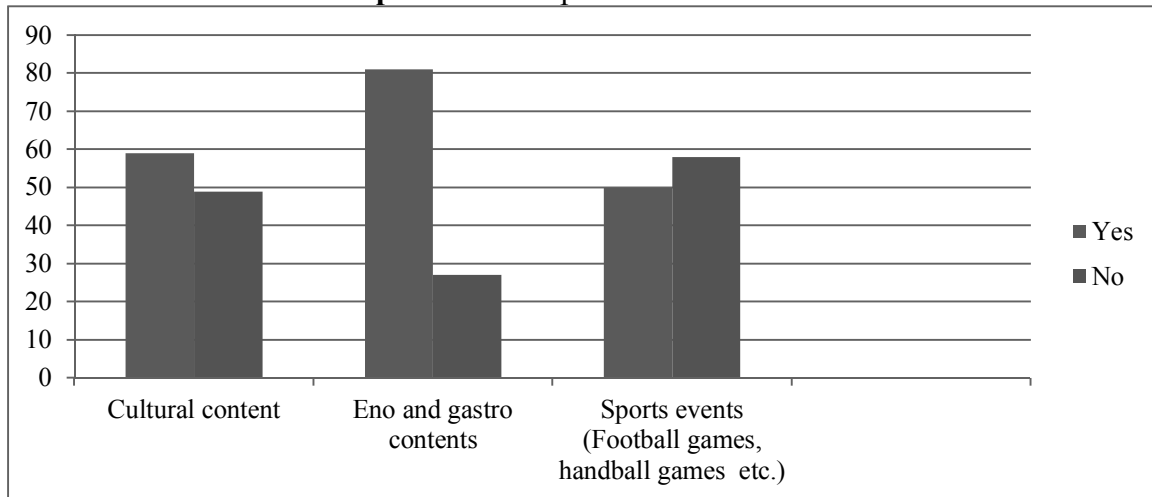
Source: authors

According to the Graph 5. Consumption of other contents the 59 of the respondents consume Culture contents, while 49 of respondents not consume, 81 of the respondents consume Eno and gastro contents, while 27 of respondents not consume, 50 of the respondents consume Sports events (Footbal games, handball games etc.) while 58 respondents not consume.

Graph 6: Potential areas for the development of active tourism in Slavonia and Baranja
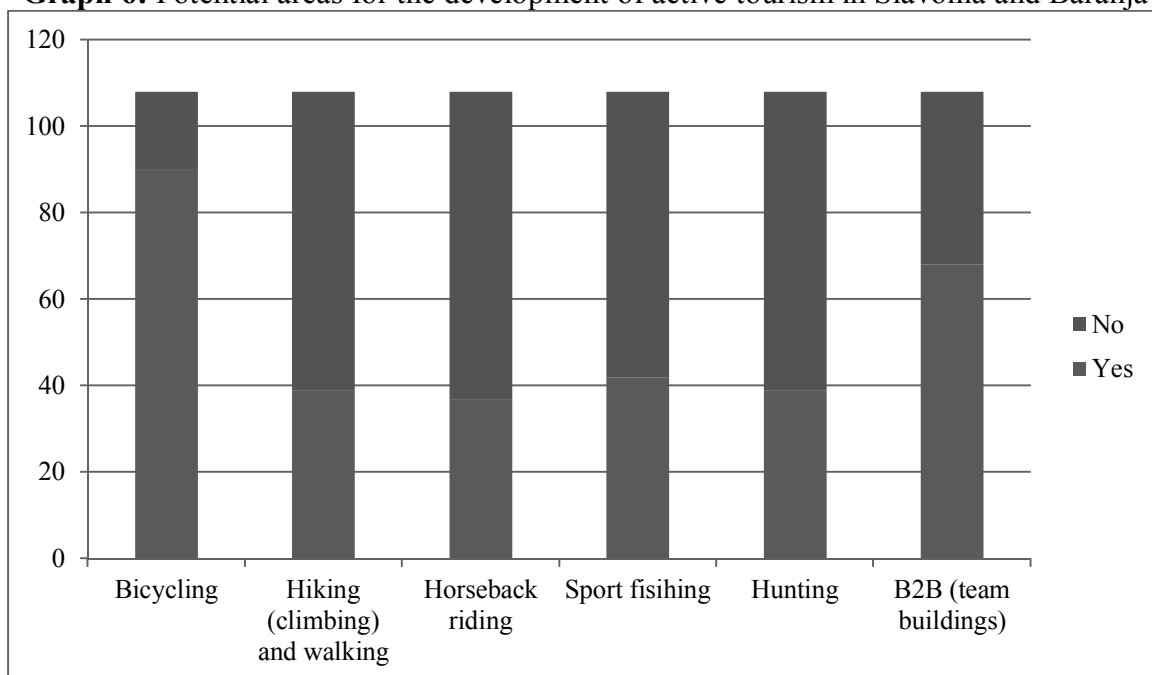
Source: authors

According to the Graph 5. Potential areas for the development of active tourism in Slavonia and Baranja the 90 respondents considers that Cycling is potential area for the development of active tourism in Slavonia and Baranja, while 18 of respondetns not considers, 68 respondents considers that is organizing B2B (tema buildings) is potential area for the development of active tourism in Slavonia and Baranja, while 40 of respondents not considers, 42 respondents considers that Sport fishing is potential area for the development of active tourism in Slavonia and Baranja, while 66 of respondents not considers, 39 respondents considers that is Hiking (climbing) and walking) is potential area for the development of active tourism in Slavonia and Baranja, while 69 of respondents not considers, 39 respondents considers that is Horseback riding is potential area for the development of active tourism in Slavonia and Baranja, while 69 of respondents not considers.

Graph 7: Positive characteristics for development of active tourism in the area of Slavonia and Baranja
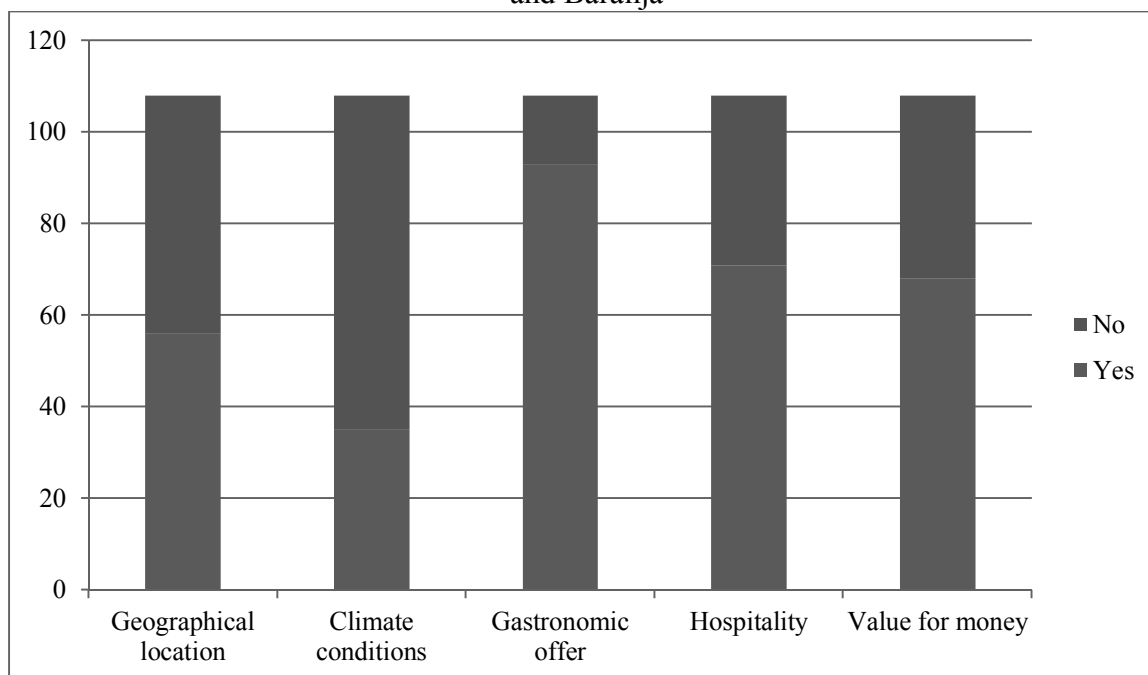
Source: authors

According to the Graph 6. Positive characteristics for development of active tourism in the area of Slavonia and Baranja the 93 of respondents consider that Gastronomic offer is main positive characteristic for development of active tourism in the area of Slavonia and Baranja, while 15 of respondents not consider, 71 respondents consider that Hospitality is positive characteristic for development of active tourism in the area of Slavonia and Baranja, while 37 of respondents not consider, 68 respondents consider that Value for money is positive characteristic for development of active tourism in the area of Slavonia and Baranja, while 40 of respondents not consider, 56 of respondents consider that Geographical location is positive characteristic for development of active tourism in the area of Slavonia and Baranja, while 52 respondents not consider, 35 respondents consider that Climate conditions is positive characteristic for development of active tourism in the area of Slavonia and Baranja, while 73 respondents not consider.

Graph 8: Negative characteristics which affect to the further underdevelopment of active tourism in the area of Slavonia and Baranja
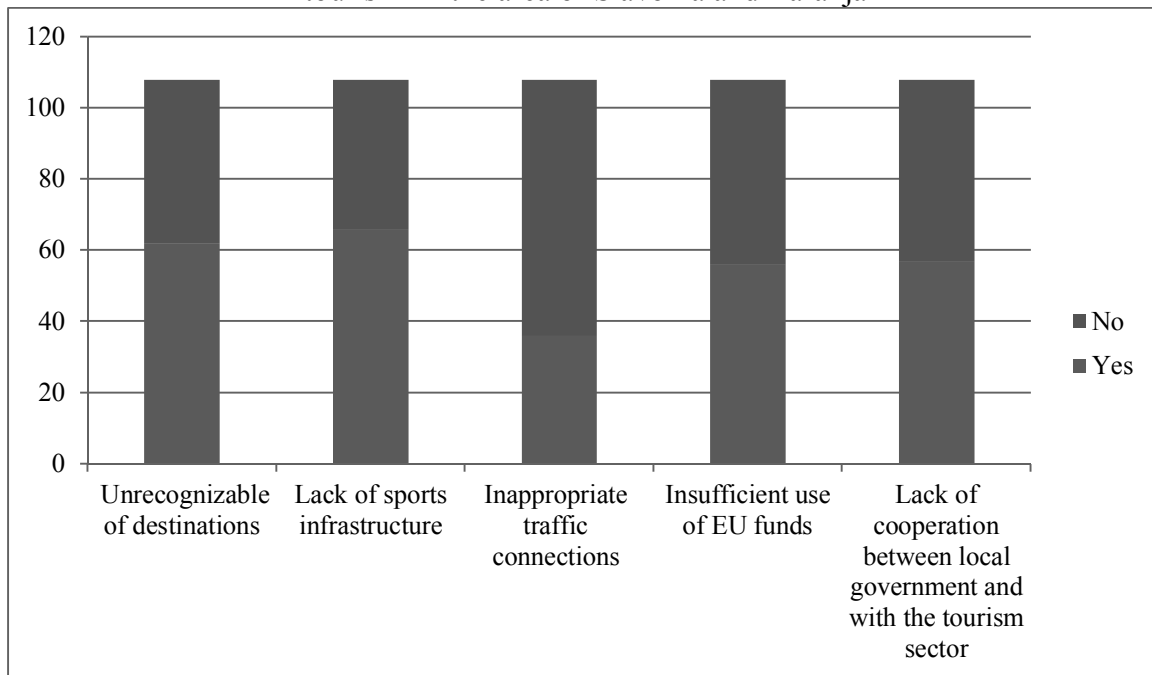
Source: authors

According to the Graph 7. Negative characteristics which affect to the further underdevelopment of active tourism in the area of Slavonia and Baranja the 66 respondetns consider that Lack of sports infrastructure is main negative characteristic for development of active tourism in the area of Slavonia and Baranja, while 42 respondents not consider, 62 respondents consider that Unrecognizable of destinations is negative characteristic for development of active tourism in the area of Slavonia and Baranja, while 46 respondents not consider, 57 respondents consider that Lack of cooperation between local govermment and with the tourism sector is negative characteristic for development of active tourism in the area of Slavonia and Baranja, while 51 respondents not consider, 56 respondents consider that Insufficient use of EU funds is negative characteristic for development of active tourism in the area of Slavonia and Baranja, while 52 not consider, 36 respondents consider that Inappropriate trafic connections is negative characteristic for development of active tourism in the area of Slavonia and Baranja, while 72 respondents not consider.

5. Conclusion

Tourism has proved itself to be an important sector and a crucial source of income in Croatia, as well as the world. In the first nine months of 2019 year Croatia has achieved 86.6 million overnights tourists, what in a relationship for the same period in 2018, it does an increase of 3.6 %.

Analyzed by counties in the Adriatic Croatia, the largest number of overnight stays in the period from January to September 2019 it was realized in the County of Istria (25.6 million), while in Continental Croatia the largest year on year increase of overnight stays was recorded in Vukovar-Srijem County (67.5 %). In the said period Vukovar-Srijem County was recorded 159.259 overnight stays and 78.164 arrivals, Osijek-Baranja county recorded 97.161 overnight stays and 57.523 arrivals, county of Brod-Posavina was recorded 44.769 overnight stays and 28.158 arrivals, county of Virovitica-Podravina was recorded 36.564 overnights stays and 13.099 arrivals and county of Požega-Slavonia was recorded 31.137 overnight stays

and 14.419 arrivals. Although the aforementioned counties from Slavonia and Baranja recorded an increase in the number of overnights stays and arrivals, the average number of overnights stay is 2 days.

Analysing the overnight stays and arrivals in Slavonia and Baranja, with an emphasis on active sporting events, the increase is visible especially during certain events in the destination (Pannonian Challenge, Osijek half marathon, Ferivi Baranja half marathon, Good world cup, Wine Bor marathon, Tour de Croatia etc.).

The results of the research are testimonials of the attitudes of domestic recreational athletes and athletes from almost the entire Republic of Croatia.

Based on the research available in this paper, we can conclude that Slavonia and Baranja has potentials primarily in cycling, organizing B2B events, sport fishing, hunting, horseback riding and hiking. As positive characteristics for development of active tourism in the area of Slavonia and Baranja respondents in this research claim: gastronomic offer, hospitality, value for money, geographical location, climate conditions. Whereas for the negative characteristics which affect to the further underdevelopment of active tourism in the area of Slavonia and Baranja, respondents in this research claim: lack of sports infrastructure, unrecognizable of destinations, lack of cooperation between local govermment and with the tourism sector, insufficient use of EU funds, inappropriate trafic connections.

The tourism potential in Slavonia and Baranja is unquestionable. Its further growth and development requires significant investments of public, private and EU funds in sports infrastructure, transport infrastructure (air routes and airport modernization, cycling paths, roads, railways, etc.) accommodation (especially bike and bed), education of tourist workers, organization of significant sports events, networking of all selective types of tourism (health, cultural, eno and gastro tourism), continuous promotion of destinations of Slavonia and Baranja at national and international level.

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THE INFLUENCE OF TRADITION AND NUMBER OF EMPLOYEES ON THE COMPETITIVENESS AND PROFITABILITY OF ENTERPRISES IN THE METAL PROCESSING INDUSTRY

ABSTRACT

The pathway of each enterprise, as well as the economy, should be the creation of competitive advantage, and gaining of unique market position. It is important to understand historical and economic heritage same as impact of large number of employees on competitiveness and profitability of metal processing industry in Republic of Croatia. Today, industrial production is getting again the growing importance. Todays development is continuation of the historical heritage, but for competitiveness, country needs to turn to new industries, knowledge and markets. Global economic trends push enterprises to have a well-designed human resource strategy i fit wants to be successfully positioned on the market and to achieve competitiveness. This paper has three main goals: to present theoretically competitiveness as an element for reaching profitability, to explain division of metal processing industry in Croatia and to research influence of tradition and nuber of employees in enterprises on competitiveness and profitability in metal processing industry.

Methodology of research is statistical analysis (Spearman's correlation, Kruskal Wallis test) *of 508 enterprises in sectors C24, C25 and C28 according to NKD 2007 (data are taken from portal Business Croatia). In this paper are analysed large size, small and medium enterprises from all Croatian counties (21 counties). The SPSS statistical program (version 16.0, SPSS Inc., Chicago, IL, USA) was used for statistical analysis in this paper.*

Reesult of the paper is correlation between number of employees and 28 economic parameters (such as EBIT, EBITDA, ROA, ROE, export/import and so on) in metal processing industry. Also, how number of employees in each enterprise effects on each parameter and what it's significance.

Nowadays, is necessary to find strategic models according to set parameters, how human resource sector (number of employees) can develop and increase a competitive position and regional leadership.

Key words: *tradition, competitiveness, strategy, profitability, parameter.*

1. Introduction

This paper systematically describes and analyse tradition and employee's influence on metal processing industry in Croatia. Metal processing industry has always had an important place in the development of the economy. Today this industry is trying to reach former level of business. The problem is poor competitiveness and technological obsolescence of production capacity, and the disappearance of the traditional market in which they offer products. In the transition period, the role of industry is completely neglected, but nowadays is developing understanding

of its value. "Metal processing industry is one of the strongest influences on the manufacturing industry, but also on the economy in the Republic of Croatia. In a global postindustrial economy the role of company strategy is becoming increasingly important. This is particularly significant for a small transition country such as Croatia. Strategy is used for improving performance and management, and as a tool for achieving competitive advantage". (Duspara, Požega, Crnković, 2017., p.579) This paper analyses the influence of tradition and number of employees on the competitiveness and profitability of enterprises in the metal processing industry.

2. Competitiveness and strategy

Metal processing industry is one of the oldest branches of industry in the Republic of Croatia. It is the reason of great importance in the industrial tradition and has historically been a major part of the workforce. Now, that industry does not quote very well, so it is important to implement strategy models and methods to reach better competitiveness. Strategy is one of the key factors in enterprise that enables development of competitive advantage. Strategies can be divided in groups: general business strategy and individual strategies of particular functions; strategies that create change and new markets, business strategies on foreign markets, external strategy, human resources strategy and others. Strategy is a term used to improve business and achieve competitive advantage in the market. Over the last few decades, the nature of the business world has changed considerably under the influence of new trends in the economy. That's why there is a new term in economy called hypersompetitiveness. "Hypercompetition and competitive dynamics are essential for understanding how dynamics and competitive intensity of business environment lead to temporary competitive advantage. Theoretical approach of competitive dynamics shows that relationship between fi rm´s strategy and fi rm performance primarily depends on fi rm strategic behavior." (Daraboš Longin, 2018. p. 231) So one of mayor problems is implementation of strategy and achieving a competitive advantage in times of hyper competition in metal processing industry based on human resource developement.

Competitiveness is the ability to coexist with other institutions under the conditions of conflict of interest. This type of coexistence (competitiveness) can relate to several levels: "Ability to survive - the lowest level of competitiveness, refers to the ability to adapt to a competitive environment without significant change or development. Ability of development - refers to the medium level of competitiveness, ie the ability to react actively to changes in a competitive environment and improve the quality and activity. Superiority - the highest level of competitiveness refers to the ability to influence a competitive environment through more efficient work, faster development and better quality than competitors." (Reiljan, Hinrikus, Ivanov, 2000., p.11). „The issue of identifying the presence of competitive advantage, as a result of adequate patterns of resource/competence utilization and complementarity"(Talaja et.al., 2017.,p. 587)

The European Commission (2001., p. 75) defines competitiveness as the ability to produce goods and services that will respond to the challenges of international markets, while retaining a high and sustainable level of income or, more generally, the ability to produce, by the pressures of external competition, a relatively high income and the level of employment. Economic theory speaks of the competitiveness of enterprises and the competitiveness of the state.

"Competitiveness is most commonly defined at enterprise level. Competitive is an enterprise that can produce better quality products and lower costs than its rivals. Enterprise competitiveness has three dimensions: cost efficiency, quality and relative performance. The definition of industrial competitiveness is analogous to the company's competitiveness. However, industrial competitiveness inevitably involves a territorial dimension. The industry is defined as a group of companies of similar activities from a particular region or country, and its competitiveness is assessed by groups of producers with similar activities from other regions and countries. At national level, competitiveness is defined as the ability to compete with other countries." (National Competitiveness Council, 2004., p. 10)

3. Main characteristic of metal processing industry in Coratia

Metal processing industry have a long tradition and impact on Croatian economy. "On a daily social change which, as a consequence of globalization, have caused awareness raising and increased pressure not only by civil organizations, but also by governments and other groups which may influence the activities of the business sector. The consequence of these changes is a more important role of responsible business practices in the process of achieving business competitiveness. Therefore, sustainable business practices are becoming an important means of attaining added value and, consequently, business competitiveness." (Tanković, Matešić, 2009, p.79) Nowdanys metal processing industry is classified as part of industry sector.

"According to the National Classification of Activities 2007 (NKD 2007) metal processing industry belongs to the "area C" which contains the industry, which deals with the transformation of materials into new products. Classification of economic activities can often be unclear about the boundaries between manufacturing and other sectors of the classification system." (Croatian Bureau of Statistics) It is noteworthy that such activity classification is applied since 2008; until then, another classification methodology was applied. Sector of the metal processing industry includes:
- C24 Manufacture of basic metals
- C25 Manufacture of fabricated metal products, except machinery and equipment
- C28 Manufacture of machinery and equipment.

"Activity C24 includes melting and / or refining ferrous and unwanted metals from ore or scrap, using electro metallurgic and other process of metallurgic techniques. Activity C25 includes the manufacture of "pure" metal products (such as parts, containers and structures). Activity C28 includes the manufacture of machinery and equipment that act independently on materials either mechanically or thermally or perform operations on materials including their mechanical components that produce and apply force, and any specially manufactured primary parts." (Industrijska strategija Hrvatske 2014.-2020)

4. Methodology

Analysis of enterprises in metal processing industry is conducted on data from the portal Business Croatia in 2015 year. Metal processing industry analysis is based on three sectors - according to NKD 2007 (National Classification of Activities), sectors C24, C25 and C28. In this paper are analyse large size, small and medium enterprises. The simple included 15 large enterprises (total population), 93 medium size enterprises and 400 small size enterprises.

A sample of enterprises was taken from all Croatian counties (21 counties). Sample is proportional to the number of small enterprises registered in each county. It analysed in total

508 (large, small and medium-sized) enterprises in the metal processing industry in the Republic of Croatia.

5. The influence of tradition and number of employees on the competitiveness and profitability of companies in the metal processing industry

In this chapter is research of metalprocessing industry. It is analysed how tradition and number of employees have influence on profitability and competitiveness of small, medium and large rnterprises in the metal processing industry in Republic of Croatia. The research is based on hypotesis that follows in the text below.

H1: The metal processing industry is based on tradition and a large number of employees that are significantly positively correlated with the competitiveness and profitability of companies

To test Hypothesis 1: The metal processing industry is based on tradition and a large number of employees that are significantly positively correlated with the competitiveness and profitability of these companies. Spearman's correlation coefficient, which is a nonparametric equivalent of Pearson's correlation coefficient (product of rank correlation), will be used to evaluate the association. Measuring the correlation between variables (number of employees with observed parameters: credit rating, year of foundation, number of members of the Management Board, average net salary of employees, total income and expenses, EBITDA, EBIT, EBT, corporate tax, net profit, newly created value, productivity, money , exports and imports, assets / liabilities, long term assests and current assets, capital and reserves, liquidity ratio, Altman Z scor, days of receivables and payables in days, operating margin, cash cycle in days, ROE, ROA, employee income and net profit per employee). This indicators are chosen as a main financial dana, and were taken form Business Croatia for each enterprise.

The cases in which the Spearman coefficient is used are e.g. when there is no linear relationship among the variables, and it is not possible to apply a corresponding transformation to translate the relationship into a linear one. Spearman's correlation coefficient as a result gives an approximate value of the correlation coefficient treated as its sufficiently good approximation. The calculation of the coefficient is done by using the values of the assigned ranks. The Spearman coefficient is denoted by Rho (ρ)). The basis of Spearman's rank correlation coefficient are pairs of modalities of rank variables or numerical variables transformed into rank variables. Modalities are each rank variable from the set of first n positive integers. If in each pair the ranks are equal, their differences are equal to zero, and the coefficient assumes a value of 1, in which case there is a complete positive correlation of the ranks. When the order of modality of one rank variable is reversed from the order of another variable in the pair, the coefficient will take on the value -1, so the correlation rating is complete and negative. If the significance level is 0.05, the decision is made by comparing the test magnitude (sample rank correlation coefficient) with the critical value of the sampling distribution of the rank correlation coefficient for probability, that is, for the significance level and sample size. The alternative hypothesis contains the opposite claim that there are tendencies that large values of one variable are paired with large values of another variable (positive association) or that large values of one variable are associated with small values of another variable (negative association). Correlation coefficient values greater than 0.5 and less than -0.5 are said to be good, ie, the closer the number to 1 or -1 the correlation is excellent.

Two assumptions will be made for the test:
H1.1: there is no correlation between the number of employees and the observed parameters,

H1.2: there is an association between the number of employees and the observed parameters.

The significance level of the test was set at $\alpha = 0.05$. Thus, if the significance level of the test is less than 5% (significance level of 5% equals 95% confidence), assumption H1.1 will be rejected and alternative assumption H1.2 will be accepted, ie there will be significant correlation between the number of employees and of the observed parameters. If the significance is greater than 5%, H1.2 will be rejected and H1.1 will be accepted, that is, no statistically significant correlation will be demonstrated between the number of employees and the observed parameters.

The connection of all observed parameters with the number of employees is significant. The strongest positive relationship between the number of employees is with total revenues ($\rho = 0.929$), total expenses ($\rho = 0.923$) and newly created value ($\rho = 0.967$).

A very good positive correlation is with both total assets / liabilities ($\rho = 0.811$) and current assets ($\rho = 0.831$). The weakest correlation between the number of employees and the rate of return on equity (ROE) ($\rho = 0.146$). Companies established earlier have a larger number of employees, that is, a negative correlation ($\rho = -0.253$), and the number of employees increases by reducing the days of claims receivable ($\rho = -0.110$) or the days of liabilities ($\rho = -0.110$).

Spearman's correlation coefficient is used to evaluate the correlation between the number of employees and the observed parameters. Good correlation (greater than 0.500) of the number of employees with most parameters has been demonstrated. Since the correlation coefficient (Rho) $\rho > 0.500$ and significance is less than 0.05, we accept the assumption of H1.2 that there is a significant correlation between the number of employees and the observed parameters.

It is clear from the above that Hypothesis 1.2 is confirmed (Table 1).

Table 1: Spearman correlation coefficient of the number of employees with observed parameters

	Spearman correlation coefficient (Rho) ρ of the number of employees	p
Year of foundation	-0,253	<0,001
Number of members of the Management Board	0,317	<0,001
Average net salary of employees	0,679	<0,001
Total income	0,929	<0,001
Total expenses	0,923	<0,001
EBITDA	0,676	<0,001
EBIT	0,587	<0,001
EBT	0,586	<0,001
Corporate tax	0,468	<0,001
Net profit	0,580	<0,001
Newly created value	0,967	<0,001
Productivity	0,462	<0,001

	Spearman correlation coefficient (Rho) ρ of the number of employees	p
Money	0,659	<0,001
Exports	0,766	<0,001
Imports	0,638	<0,001
Assets / Liabilities	0,811	<0,001
Long term assests	0,737	<0,001
Current assets	0,831	<0,001
Capital and reserves	0,767	<0,001
Liquidity ratio	0,239	<0,001
Altman Z score	0,246	<0,001
Days of receivables	-0,190	<0,001
Payables in days	-0,110	0,011
Operating margin	0,182	<0,001
ROE	0,146	0,001
ROA	0,292	<0,001
Employee income	0,371	<0,001
Net profit per employee	0,215	<0,001

Source: author

In order to check the difference for individual parameters by number of employees, enterprises are divided into three groups according to the number of employees: up to 10 employees, from 11 to 50 employees and enterprises with more than 50 employees.

To test Hypothesis 2: The metal processing industry is based on tradition and a large number of employees. The difference in parameters will be displayed: credit rating, year of foundation, number of members of the Management Board, average net salary of employees, total income and expenses, EBITDA, EBIT, EBT, corporate tax, net profit, newly created value, productivity, money, exports and imports , assets / liabilities, non-current and current assets, capital and reserves, current ratio, Altman Z scor, days of receivables and payables in days, operating margin, cash cycle in days, ROE, ROA, employee income and net profit per employee) by groups by number of employees.

The Kruskal Wallis test, which is a nonparametric analog of the ı test as part of the variance analysis, will be used to test for differences. When conducting the Kruskal Wallis test, one assumes that random and independent samples were selected from the K base sets or equivalent, a completely randomized trial design, and that the base sets are equally distributed; the third thing to begin with is that the values of the measurement are on a rank, interval, or numerical scale. It is assumed that all data taken as a whole (n) are ranked by their respective samples. The lowest rank is 1 and the highest n. If more than one value appears among the data, each is assigned an average rank, in which case it is a related rank. In the ranking process, the data in the samples do not change position, that is, they remain in the same samples (groups). The null hypothesis contains the assertion that the basic sets have equal medians and the alternative holds the opposite claim.

Two assumptions will be made for the test:
H1.1: there are no differences between the number of employees and the observed parameters,
H1.2: there are differences between the number of employees and the observed parameters.

The significance level of the test was set at $\rho = 0.05$. Thus, if the significance level of the test is less than 5% (significance level of 5% equals 95% confidence), assumption H1.1 will be rejected and alternative assumption H1.2 will be accepted, ie there will be a significant difference between companies with given the number of employees and the parameters observed. If the significance is greater than 5%, H1.2 will be rejected and H1.1 will be accepted, that is, no statistically significant difference will be demonstrated between the companies in terms of the number of employees and the observed parameters.

The credit rating is highest for companies with up to 10 employees, 8 (interquartile range 4-11) compared to enterprises with 11 to 50 employees or more than 50 employees, where the credit rating is 4 (interquartile range 1 to 7) (Kruskal Wallis test, $p < 0.001$). The average net salary is the largest in enterprises with more than 50 employees, it amounts to HRK 4,988.5 (interquartile range HRK 4,247.25 to HRK 5,724.5), compared to the average net salary in enterprises with up to 10 employees, where 2,539 kn (interquartile range 0 to 4,051 kn) or in those with 11 - 50 employees, with an average salary of 4,463 kn (interquartile range 3,448 kn to 5,337.50 kn) (Kruskal Wallis test, $p < 0.001$). Total revenues are significantly lowest in enterprises with up to 10 employees and amount to HRK 457,200 (interquartile range HRK 71,600 to HRK 1,333,800) compared to enterprises with 11 - 50 employees with a median total income of HRK 6,863,100 (interquartile range 4,448,600 to HRK 12,766,450), or compared to enterprises with more than 50 employees where the median total income is HRK 74,558,450 (interquartile range HRK 42,097,125 to HRK 156,450,325) (Kruskal Wallis test, $p < 0.001$).
 The same principle applies to total expenditures, with companies with the least employed having HRK 477,100 (interquartile range HRK 98,800 to HRK 1,315,000) significantly lower than enterprises with more than 50 employees where expenditures are HRK 63,246,450 (interquartile range 39,176 675 HRK to $ 152,342,125 HRK) (Kruskal Wallis test, $p < 0.001$).

Significantly higher profit before interest, tax and depreciation (EBITDA), that is, the difference between operating income and operating expenses of a company that does not include depreciation expense in companies with more than 50 employees, with a median of HRK 7,671,400 (interquartile range HRK 2,449,900 up to HRK 16,462,775) compared to enterprises with up to 10 employees with an average value of HRK 20,600 (interquartile range -3,600 to HRK 134,100) (Kruskal Wallis test, $p < 0.001$), as well as the difference between operating income and expenses (EBIT) where enterprises with up to 10 employees have an average value of HRK 8,400 (interquartile range -8,400 HRK to 69,100 HRK) compared to those with 11 - 50 employees or with enterprises with more than 50 employees with HRK 3,659,750 (interquartile range 522,225 (Kruskal Wallis test, $p < 0.001$).

Profit before tax (EBT) is significantly higher for companies with more than 50 employees and amounts to HRK 2,694,600 (interquartile range HRK 243,075 to HRK 11,276,550) compared to enterprises with a maximum of 10 shareholders with a median of HRK 7,000 (interquartile range -6.200 kn to 50.000 kn) (Kruskal Wallis test, $p < 0.001$).

The median corporate income tax in companies with more than 50 employees is 70,700 HRK(interquartile range 0 to 518,800 HRK), significantly higher than in companies with 11-50 employees or those with up to 10 employees with a median of 200 HRK (interquartile range 0 kn to 8,300 kn) (Kruskal Wallis test, $p < 0,001$), as well as the net profit itself from 2,153,950

kn (interquartile range from 158,650 kn to 10,892,050 kn) compared to companies with 11-50 employees or with 10 and fewer employees with a median net profit of 5,300 HRK (interquartile range -6,200 HRK to 41,300HRK) (Kruskal Wallis test, p <0.001).

The newly created value is significantly higher in enterprises with more than 50 employees and amounts to 18,550,455HRK (interquartile range 10,937,558 HRK to 39,272,091 HRK), compared to enterprises with 10 or fewer employees with 97,821 HRK (interquartile range 10,892 HRK to 411,947HRK).

Productivity in enterprises with more than 50 employees with a mean value of 121,855.5 (interquartile range 98,296.5 to 174,324.5 kn), significantly higher than in enterprises with 11 - 50 employees and in enterprises with 10 and fewer employees where it amounts to 73,628.5 kn (interquartile range 45.436,75 kn to 111.813,75 kn) (Kruskal Wallis test, p <0.001).

The median value of money is 56,900 HRK (interquartile range 4,825 HRK to 538,325HRK), for enterprises with more than 50 employees it is HRK 1,631,200 (interquartile range 363,550 HRK to 4,291,950HRK) which is significantly higher than for enterprises with 11 - 50 employees or in companies with 10 or fewer employees where it is lower and amounts to 13,900 HRK (interquartile range 900 HRK to 65,200 HRK) (Kruskal Wallis test, p <0.001) (Table 2).

Table 2: Estimation of mean and dispersion of parameters by number of employees (1)

Parameters	Median (interquartile range) by number of employees			P*
	Less than 10 employees	11 – 50 employees	More thn 50 employees	
Credit	8 (4 - 11)	4 (2 - 7)	4 (1 - 7)	<0,001
Number of emploees	1 (0 - 5)	20 (16 - 31)	156,5 (88,75 - 242,75)	<0,001
Average net salary	2.539 (0 - 4051)	4.463 (3481 - 5337,5)	4.988,5 (4.247,25 – 5.724,5)	<0,001
Total revenue	457.200 (71.600 – 1.333.800)	6.863.100 (4.448.600 – 12.766.450)	74.558.450 (42.097.125 – 156.450.325)	<0,001
Total expenses	467.100 (98.800 – 1.315.000)	6.410.500 (4.303.800 – 10.786.400)	63246450 (39.176.675 – 152.342.125)	<0,001
EBITDA	20.600 (-3.600 – 134.100)	649.700 (245.950 – 1.574.750)	7.671.400 (2.449.900 – 16.462.775)	<0,001
EBIT	8400 (-8.400 – 69.100)	324600 (76.750 – 1.149.050)	3629750 (522.225 – 11.603.275)	<0,001
EBT	7.000 (-6.200 – 50.000)	204.900 (49.600 – 818.650)	2.694.600 (243.075 – 11.276.550)	<0,001
Corporate tax	200 (0 – 8.300)	30.400 (4.900 – 132.850)	70.700 (0 – 51.8800)	<0,001
Net profit	5.300 (-6.200 – 41.300)	161.600 (38.250 – 717.500)	2.153.950 (158.650 – 10.892.050)	<0,001
Newly created value	97.821 (10.892 – 411.947)	2.229.885	18.550.455	<0,001

Parameters	Median (interquartile range) by number of employees			P*
	Less than 10 employees	11 – 50 employees	More thn 50 employees	
		(1409780 – 3.585.932)	(10.937.558,25 – 39.272.091,75)	
Productivity	73.628,5 (45.436,75 – 111.813,75)	100.411 (77.443,5 – 142.949)	121.855,5 (98.296,5 – 174.324,5)	<0,001
Money	13.900 (900 – 65.200)	290.700 (34.300 – 747.800)	1.631.200 (363.550 – 4.291.950)	<0,001

*Kruskal Wallis test
Source: authors

The average export for enterprises with more than 50 employees is 509.265.550 kn (interquartile range from 18.048.900 kn to 106.829.750 kn), which is significantly higher than the enterprises with 11 - 50 employees 103.400 kn (interquartile range from 0 kn to HRK 1,283,200) (Kruskal Wallis test, $p <0,001$), which also applies to imports, which in the case of companies with more than 50 employees are 11,191,700 HRK (interquartile range 2,522,425 HRK to 37,037,750 HRK) in relation to enterprises with 11 - 50 employees with a median import of 10.400 kn (interquartile range 0 kn to 1.283.200 kn) (Kruskal Wallis test, $p <0.001$). In enterprises with more than 50 employees, the total assets / liabilities with a median value of 74,070,900 HRK (interquartile range 47,501,950 HRK to 153,872,900 HRK) are significantly higher than those with 10 or fewer employees, with an average total assets / liabilities HRK 579,300 (interquartile range 149,300 HRK to 1,814,000 HRK) (Kruskal Wallis test, $p <0.001$).

The average value of long term assets of 34,658,450 HRK (interquartile range 20,040,150 HRK to 76,669,625 HRK) is significantly higher for enterprises with more than 50 employees, which is significantly higher than for enterprises with 11 - 50 or 10 and fewer employees with the median value of 89,400 HRK (interquartile range 4,900 HRK to 588,300HRK) (Kruskal Wallis test, $p <0.001$).

Short-term assets are significantly higher in enterprises with more than 50 employees with a median value of 34,658,450 HRK (interquartile range 20,040,150 HRK to 76,669,625 HRK) compared to enterprises with 11 - 50 or 10 and fewer employees with a median value of 332,100 HRK (interquartile range 85,500 HRK to 1,116,600 HRK) (Kruskal Wallis test, $p <0,001$).

Capital and reserves are significantly higher in enterprises with more than 50 employees and amount to 35,270,000 HRK (interquartile range 18,081,225 HRK to 76,561,750 HRK) compared to enterprises with 11 - 50 and 10 or less employees, where the value of the medium equity and reserves of 82,600 HRK (interquartile range -16,500 to 503,600 HRK) (Kruskal Wallis test, $p <0.001$).

The liquidity ratio is significantly higher in companies with 11 - 50 employees and is 1.6 (interquartile range 1.01 to 3.21) compared to enterprises with more than 50 employees where it is 1.49 (interquartile range 1.09 to 2.6) or in companies with 10 or fewer employees where the liquidity ratio is 1.1 (interquartile range 0.54 to 2.02) (Kruskal Wallis test, $p <0.001$).

The Altman Z score is significantly higher in companies with 11 - 50 employees and is 2.18 (interquartile range 1.54 to 3.65) compared to enterprises with more than 50 employees where

it is 2.04 (interquartile range 1.32 to 2.9), or in companies with 10 or fewer employees where the Altman Z score is 1.53 (interquartile range 0.08 to 3.66) (Kruskal Wallis test, p <0.001).

Claims days are significantly higher in companies with up to 10 employees and amount to 89 days (interquartile range 44.75 days to 232 days) compared to enterprises with 11 - 50 employees where the average value is 83 days (interquartile range 45.25 days to 126.25 days) (Kruskal Wallis test, p = 0.014).

The operating margin has a mean of 3.75 (interquartile range -1.34 to 9.75), significantly higher in companies with more than 50 employees, where it is 4.84 (interquartile range 1 to 9.7) while the mean operating margin is in companies with 10 and fewer employees 2.57 (interquartile range -5.78 to 9.29) (Kruskal Wallis test, p = 0.004).

The rate of return on equity (ROE), which is also used as a good indicator of the rate of growth of an enterprise and whose average of 15% is considered good, is slightly higher in enterprises with 11 - 50 employees, where it is 14.4% (interquartile). 1.3% to 35%) compared to enterprises with 10 or fewer employees with an average rate of 6.5% (interquartile range 0% to 38.1%). There is no significant difference in the number of employees in enterprises.

The rate of return on assets (ROA), which is an indicator of the success of using the assets in generating profit, and is also used to evaluate the success of new projects whereby the project will be more profitable if the ROA is greater than the amount of interest rates on loans, is significantly higher in enterprises than 50 employees and is 4.75% (interquartile range 1% to 13.15%) compared to companies with 10 and fewer employees having the lowest rate of 1.5% (interquartile range -2.3% to 7.5%) (Kruskal Wallis test, p <0.001).

The median income per employee of 508,965 HRK (interquartile range 360,378.5 HRK to 679,966.75 HRK) is significantly higher in enterprises with more than 50 employees than in enterprises with 10 or fewer employees with the median income per employee of 257,400 HRK (interquartile range from 135.851 HRK to 436.493 HRK) (Kruskal Wallis test, p <0.001).

The net profit per employee of 18,078,5 HRK (interquartile range 1,691.25 HRK to 57,528 HRK) in enterprises with more than 50 employees is significantly higher than the net profit per employee in enterprises with 11 - 50 employees, where the average value is 9,012 HRK (interquartile range 1,845 RHK to HRK 39,613.5), or in relation to enterprises with 10 or fewer employees where the average net profit per employee is HRK 5,045.5 (interquartile range HRK 51.5 to HRK 20,416.25) (Kruskal Wallis test , p = 0.002) (Table 3)

Table 3: Evaluation of mean and dispersion of parameters by number of employees (2)

Parameters	Median (interquartile range) by number of employees			P*
	Less than 10 employees	11 – 50 employees	More than 50 employees	
Exports	0 (0 - 0)	576.400 (0 – 3.611.100)	50.926.550 (18.048.900 – 106.829.750)	<0,001
Imports	0 (0 - 0)	103.400 (0 - 1283200)	11.191.700 (2522425 - 37037750)	<0,001
Assets / Liabilities	579.300 (149.300 – 1.814.000)	6.319.400 (3.513.500 – 15.624.550)	74.070.900 (47.501.950 – 153.872.900)	<0,001

Parameters	Median (interquartile range) by number of employees			P*
	Less than 10 employees	11 – 50 employees	More than 50 employees	
Long term assests	89.400 (4.900 – 588.300)	2.753.400 (828.050 – 5.967.300)	34.658.450 (20.040.150 – 76.669.625)	<0,001
Current assets	332.100 (85.500 – 1.116.600)	3.520.700 (1.989.700 – 7.722.950)	33.457.900 (20.652.850 – 75.128.675)	<0,001
Capital and reserves	82.600 (-16.500 – 503.600)	2.006.100 (718.300 – 5.753.900)	35.270.000 (18.081.225 – 76.561.750)	<0,001
Liquidity ratio	1,1 (0,54 - 2,02)	1,6 (1,01 - 3,21)	1,49 (1,09 - 2,6)	<0,001
Altman Z score	1,53 (0,08 - 3,66)	2,18 (1,54 - 3,65)	2,04 (1,32 - 2,9)	<0,001
Days of receivables	89 (44,75 - 232)	83 (45,25 - 126,25)	70 (45,25 - 114,75)	0,014
Payables in days	82 (31 - 229)	61 (29 - 117)	67 (44,25 - 103,25)	0,018
Operating margin	2,57 (-5,78 - 9,29)	4,81 (1,39 - 10,74)	4,84 (1 - 9,7)	0,004
ROE	6,5 (0 - 38,1)	14,4 (1,3 - 35)	11,35 (1,35 - 30,05)	0,135
ROA	1,5 (-2,3 - 7,5)	4,4 (1,2 - 13,55)	4,75 (1 - 13,15)	<0,001
Employee income	257.400 (135.851 – 436.493)	312.387 (203.696,5 – 545.147)	508.965 (360.378,5 – 679.966,75)	<0,001
Net profit per employee	5.045,5 (51,5 – 20.416,25)	9.012 (1.845 – 39.613,5)	18.078,5 (1.691,25 – 57.528)	0,002

*Kruskal Wallis test
Source: author

Since the significance for all parameters (except ROE) is less than 0.05, H1.2 is accepted and H1.1 is rejected, that is, there is a statistically significant difference in the observed parameters in relation to the groups of companies by the number of employees. From all of the above it can be concluded that by testing Hypothesis it is confirmed.

5. Conclusion

Continuous market changes are creating a whole new concept of competitiveness called hypercompetitiveness. Each industry, especially deficitarty industry as metalprocessing needs to cope with new trends. The reason is that tradition can't be key elemet for future development. According this paper research was conducted on 508 enterprises in total in the metal processing industry (sectors C24, C25 and C28 according to NKD 2007) from all Croatian counties (21 counties). The main result of research is that there is a statistically significant difference in the observed parameters in relation to the groups of companies by the number of employees. This hypothesis is confirmed by Spearman correlation coefficient which shows connection of the number of employees with observed parameters with 28 parameters.

According to the research, recommendation for further development is that companies, in all their segments, should be focused on increasing of the number of employees, which ultimately will lead to a better market position and better financial results, same as higher level of competitiveness. But number of employeers is only one elemet for overall success, there should be also an education of workers and implementation of new technologies. Also education and new technologies should be main accent for development, because in future new technologies will lead to decreasement of human resources. So, there is great impact of tradition and human capital, but enterprises should be proactive and implement strategy in their long trem and hort term plans. However, it is necessary to apply the strategic models and methods to achieve a competitive position and regional leadership.

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USING LOCATION-BASED SOCIAL NETWORKS FOR OPTIMAL PLACEMENT OF TOURIST FACILITIES: ZAGREB CASE STUDY

ABSTRACT

In the last decade, the advance of services and social networks that can store location coordinates and ratings by visitors has had a significant impact on how potential visitors choose their visit destination. The destination can be a landmark, a city, a restaurant, a hotel, etc., and people visiting the destination can be tourists or locals. Also, the data from these services can be used to analyse the location before potential investment in the tourist facility by an investor. Clustering unsupervised machine learning algorithms can be used for that analysis, combining individual municipalities of a city into clusters that have similar properties, making potential investors informed about municipality's properties.

In this paper, the main goal is to propose an optimal placement model based on the available information. A prerequisite for this is the analysis of location-based service that can be used to make decisions about the location of a restaurant or bar, and the amount of information available at these service for the city of Zagreb. The proposed model is based on a k-means algorithm that belongs to unsupervised machine learning algorithms.

The result of the analysis is the list of municipalities in the city of Zagreb divided into clusters with similar properties. The municipalities are divided into six clusters and that division brings objective knowledge to the potential investor. These results can be used as a basis for decision-making or as a test of expert recommendation. The proposed model can be used for other purposes, depending on the area of interest and the amount of data available on the service.

Key words: big data, tourist facility, LBSN, foursquare.

1. Introduction

In 2010, about 300 million smartphones were sold. Since 2015, sales have stopped growing, amounting to about one billion and a half smartphones a year (Holst, 2019). One of the essential components of smartphones is the satellite navigation module. This module uses satellites to provide geospatial positioning and make this information available to a smartphone (longitude, latitude, and altitude). Precision can be from a few centimetres to meters. The most popular and the oldest navigation satellite system is the Global Positioning System (GPS) made and

operated by the United States of America. Its development started in the 1970s and the system was fully operational in 1990s. The Global'naya Navigatsionnaya Sputnikova Sistema (GLONASS) is developed by Russian Federation and it can be used today, as well as the European global navigation satellite system Galileo (Teunissen & Montenbruck, 2017, VII). Chinese global navigation system BeiDou is still in the development phase (Yang, et al., 2019, 7).

Smartphones use one or more satellite navigation systems, which gives them a whole new set of functionality. With the use of data communication with the Internet, satellite navigation can serve to accurately locate users at any time. This capability has enabled the development of a range of services, and among other things have emerged social networks that use users locations. The first ideas about this service came out at the beginning of the century, and the authors recognized the huge potential of social networking and satellite navigation. Goel proposed in 2001 that real-time interactivity between wireless networks and Global Position System have big potential. The author proposed the tool with three-layer structure and these layers are: Personal Filtering, Information Layering and Social Networking (Goel, 2001). Three years later Melinger et al. proposed the first mobile social network called Socialight. It was in the development stage and included the location-based messaging system and other social network features (Melinger, et al., 2004, 1). By the end of the first decade of this century, location-based social networks became widespread. Long et al. published a paper about a first globally popular location-based social network called *Foursquare* and they analysed the reasons for its popularity (Long, et al., 2013, 3362).

In this paper data from location-based social networks will be used for Zagreb municipalities clustering for selection optimal placement of tourist facility. Zagreb is the capital city of Croatia, an European Union country. In the second section of the paper, location-based social networks will be explained. In the third section, unsupervised machine learning algorithms that will be used for clustering will be explained. The fourth section includes data, methodology and results. Finally, discussion and conclusion are in the fifth and sixth section.

2. Location-based social networks

Gordon and Silva defined Location-Based Social Networks (LBSN) as social network sites that include location information into shared contents (Gordon & Silva, 2011, 11). The first Location-Based Social Network was Dodgeball that allows members to send their location with SMS but it has been acquired and discontinued by Google (Krishnamurthy & Pelechrinis, 2013, 132). Location-Based Social Networks usually have two types of location information:
   a) continuous trajectory,
   b) discrete locations.
When LBSN records user continuous trajectory then members of a social network who are allowed can access the location of a user any time. The approach that uses discrete locations is usually controlled by users. When a user decides, he or she can check-in on some interesting location and share this location with other members. Both types of location recording approach have advantages and disadvantages. Discrete location approach has more contextual information but continuous trajectories have more information about the movement. Generally, the check-in concept is used more often than continuous trajectory concept and the check-in concept produces more valuable information (Krishnamurthy & Pelechrinis, 2013, 130).

As mentioned in the Introduction, growth in Location-Based Social Networks usage has been fuelled by the growth of smartphone with a satellite navigation module purchases. LBSN service is most commonly used by users as an app on a smartphone.

Krishnamurthy & Pelechrinis proposed four categories of Location-Based Social Networks:
   a) Location Sharing Services
   b) Location Guides
   c) Business-Oriented LBSNs
   d) Gaming-Oriented LBSNs (Krishnamurthy & Pelechrinis, 2013, 132).

Location Sharing Services category is the simplest and these services came first because of their simplicity. The primary objective of these services is to allow other users to know the real-time location of an active user who shares his/her location. The earliest LBSN belonged to that category.

Location guides category services are more advanced than Location Sharing Services and its primary purpose is to store and share interesting locations. An example from that category is Gowalla, LBSN that was able to provide interest places based on the opinions of other members. Gowalla was acquired by Facebook in 2011 after four years of existence but it has been shut down.

We can say that Business-Oriented LBSNs category is different because their founders had a viable business model from the beginning. LBSNs from that category used the opportunity to exploit collected information about venues to enhancing commerce at such venues. There are lots of such LBSNs and some of them are Foursquare, Yelp and Shopkick. Research in this paper is based on Foursquare LBSN so it will be described in detail. In China there are different LBSNs from Business-Oriented category and of them is Jiepang that is called "Chinese Foursquare" (Chiang, 2012).

The last category that was proposed by Krishnamurthy & Pelechrinis was Gaming-Oriented LBSNs. The authors state that services from that category usually provide smartphone application that is a platform for gaming, location sharing and advertising. Frith analysed games implemented in the Foursquare platform and concluded that some users render locations as digital objects that have to be collected (Krishnamurthy & Pelechrinis, 2013, 133) (Frith, 2013, 249).

2.1. Foursquare

Foursquare Labs Inc. is an American company with headquarter in New York City. It was launched in 2009 but it takes almost a decade for them to start making a profit (Miller, 2017). Co-founders are Dennis Crowley and Naveen Selvadurai. Crowley built the experience on a similar LBSN called Dodgeball that has been sold to Google in 2005 (Gonsalves, 2005).

Their LBSN services can be accessed with different applications and tools. They started with the concept of real-time location sharing and primary store discrete locations with data that users collected on these locations. Their first application for a smartphone was named simply *Foursquare* and it enabled users to share their locations complemented with comments and pictures, with friends. Users could do this on the web or SMS service but the main idea is to do it with a smartphone.

In 2014 Foursquare Labs Inc. launched another application called *Swarm* that included location sharing and social networking. The same year they upgraded main application *Foursquare*, changed its name to *Foursquare City Guide* and removed location sharing and social networking from it. The screens of both can be seen in figure 1 (Summers, 2014).

One of the main features that are available from Foursquare services is the *Places API*. It is a service primarily intended for developers and analysts that can be queried about any place using an HTTP request. It can be used for free but for larger query volumes users have to pay this service. Key features are:

a) "real-time access to over 105 million places available across 190 countries,
b) use custom API endpoints to power geo-tagging, venue search and recommendations,
c) leverage 70+ venue attributes and 900+ categories and
d) create location experiences with access to user-generated tips, tastes & photos."

It has been used for research in this paper (Foursquare Labs Inc., n.d.).

Figure 1: Foursquare City Guide and Swarm screens on the Android platform
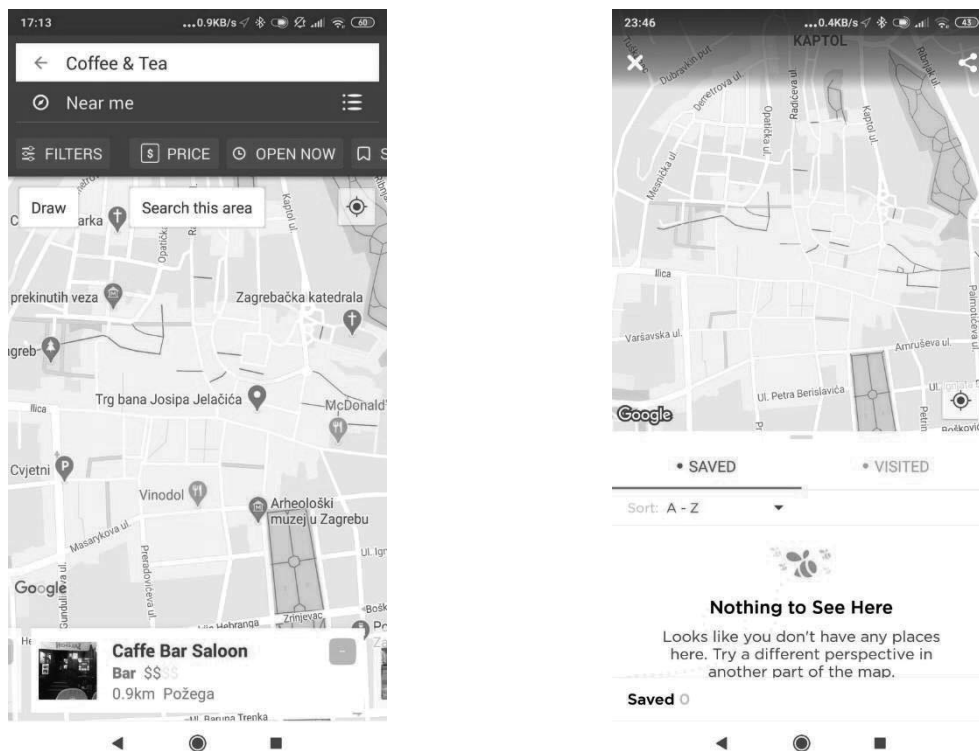
Source: authors

3. Unsupervised machine learning algorithms

Unsupervised machine learning deals with problems where the data is not labelled. Algorithms from that machine learning category simply find similar data points in multi-dimensional space and put them in clusters. Mohammed et al. consider that most important unsupervised machine learning algorithms are:

a) K-means
b) Hidden Markov model
c) Principal component analysis

d) Gaussian mixture model (Mohammed, et al., 2016, 140)

In this paper, the K-means algorithm is used.
K-means algorithm is a well known unsupervised machine learning algorithm proposed by Steinhaus in 1956. (Steinhaus, 1956). The main principle of that algorithm is the principle of least squares. It can be simply explained as grouping data on a finite number of groups with the goal that the sum of the squared deviation of group members from the centre of the group is minimized. It can be defined as:

$$WCSS = \sum_{c_i \in C} \sum_{j=1\ldots d} \sum_{x,y \in c_i} (x_{ij} - y_{ij})^2$$

where WCSS is the abbreviation for a within-cluster sum of squares and the main goal is to minimize it (Kriegel, et al., 2017, 12). This method is an iterative method and it starts with random positions of cluster centres. In each iteration, the central point is updated and it depends on cluster members. Because of a random selection of initial k-means, after every optimisation, we can get different clusters (Mohammed, et al., 2016, 129).

K-means algorithm is often used in scientific papers that deal with data from Location-Based Social Networks. Yang et al. used the k-means algorithm to cluster LBSN users and they propose a cultural mapping approach based on the data from LBSNs (Yang, et al., 2016). Modsching et al. used k-means algorithm to discover tourists activity areas and they found that twenty clusters are the optimal number in their research in the city of Gorlitz in Germany (Modsching, et al., 2008). Claypo and Jaiyen used k-means algorithm for clustering of customer opinions for Thain restaurants into positive and negative groups. They used about one thousand text reviews from website th.tripadvisor.com (Claypo & Jaiyen, 2015). Isanan used k-means algorithm to retrieve restaurant category data on the Philippines and he used data from Foursquare and Google services (Isanan, 2019). In this paper, k-means algorithm implementation from the scikit-learn library is used (Scikit-Learn community, 2020).

4. Zagreb case study

4.1. Data and methodology

Zagreb is the capital city of Republic Croatia and official 2011 census counted almost 800000 residents. In 2011, the city of Zagreb has about 600 000 tourist arrivals but only six years later this number was more than doubled. In 2017 tourist arrivals number was more than 1,3 million (Kesar, et al., 2018, 192). This is recognised by global and regional restaurant and fast food corporations, like Subway and Lars&Sven, and they have opened or announced the opening of their restaurants and fast food outlets (teen385.com, 2019) (Punkufer.hr, 2019).

Table 1: Zagreb municipalities with the area and population data

	Municipalities	Area (km²)	Population (2011)	Population (2001)	Population density (2001)
1.	Donji Grad	3.01	37,123	45,108	14,956.2
2.	Gornji Grad – Medveščak	10.12	31,279	36,384	3,593.5
3.	Trnje	7.37	42,126	45,267	6,146.2

	Municipalities	Area (km²)	Population (2011)	Population (2001)	Population density (2001)
4.	Maksimir	14.35	49,448	49,750	3,467.1
5.	Peščenica – Žitnjak	35.30	56,446	58,283	1,651.3
6.	Novi Zagreb – istok	16.54	59,227	65,301	3,947.1
7.	Novi Zagreb – zapad	62.59	58,025	48,981	782.5
8.	Trešnjevka – sjever	5.83	55,342	55,358	9,498.6
9.	Trešnjevka – jug	9.84	66,595	67,162	6,828.1
10.	Črnomerec	24.33	39,040	38,762	1,593.4
11.	Gornja Dubrava	40.28	62,221	61,388	1,524.1
12.	Donja Dubrava	10.82	36,461	35,944	3,321.1
13.	Stenjevec	12.18	51,849	41,257	3,387.3
14.	Podsused – Vrapče	36.05	45,771	42,360	1,175.1
15.	Podsljeme	60.11	19,249	17,744	295.2
16.	Sesvete	165.26	70,633	59,212	358.3
17.	Brezovica	127.45	12,040	10,884	85.4
	TOTAL	641.43	792,875	779,145	1,214.9

Source: Croatian Bureau of Statistics, 2011; Croatian Bureau of Statistics, 2001

One of the most important factors for the success of fast food outlets or restaurant is its location. The main goal of this paper is to provide a method for municipalities clustering in Zagreb that is based on available data on Foursquare LBSN and k-means algorithm. This method is well-known before tourist facility location selection but Zagreb's special feature is the low availability of quantitative data on which decision can be made. Some cities have much more quantitative data available on the government web sites and the good example is Hong Kong with their annually Population and Household Statistics Analysed by District (The Government of the Hong Kong Special Administrative Region, 2019).

The city of Zagreb is divided into seventeen municipalities and they are listed in the table number one. On figure 2, there is a satellite picture with municipalities borders and it can be seen that there are many differences between municipalities in size, position etc.

Figure 2: Zagreb satellite picture with municipalities borders
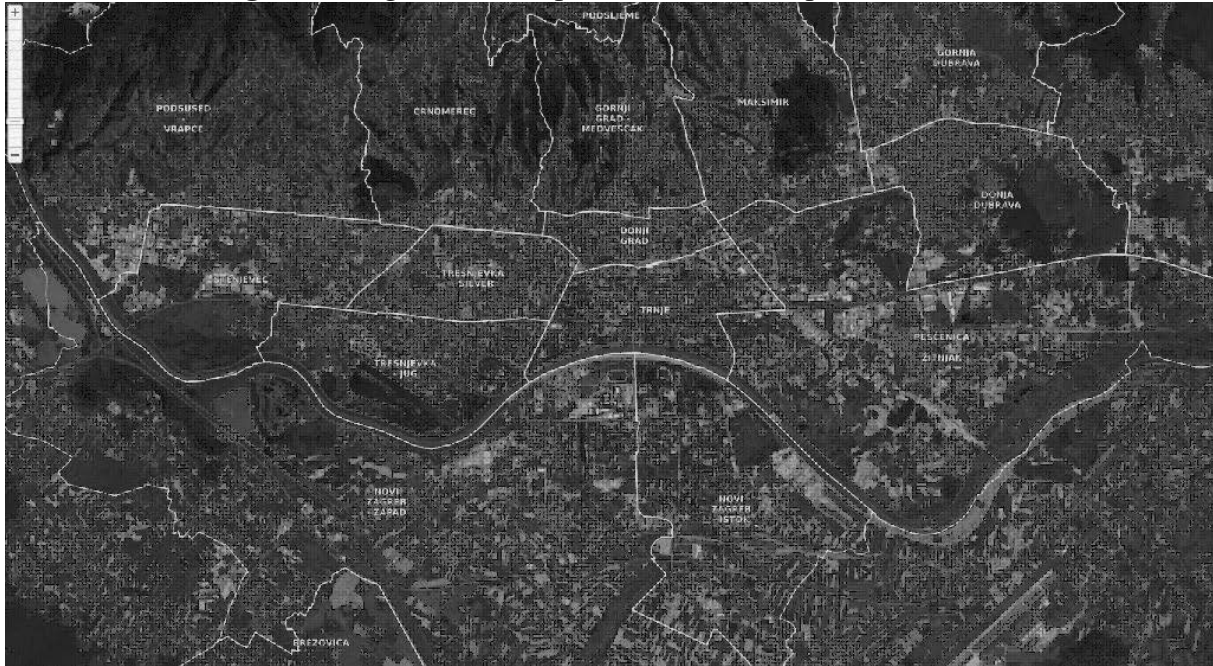
Source: authors

To analyse municipalities in Zagreb, Foursquare API is used (Foursquare Inc., n.d.). Their API enables search for locations based on longitude, latitude, and radius. Due to incomplete information entered into the Foursquare database, the municipality of a particular location is not known. This problem is solved in such a way that each municipality is defined as a polynomial and the polynomial points are stored in files. After that central point of every municipality has been found and this information was used for Foursquare queries. On figure 3, an example of one municipality polygon definition can be seen.

Figure 3: Municipality polygon example

Source: authors

Central points of all municipalities except Brezovica can be seen in figure 4. Brezovica is a big municipality on southwest that cannot be seen without zoom out. This municipality can be seen along the bottom edge of figure 2.

Figure 4: Central points of all municipalities except Brezovica
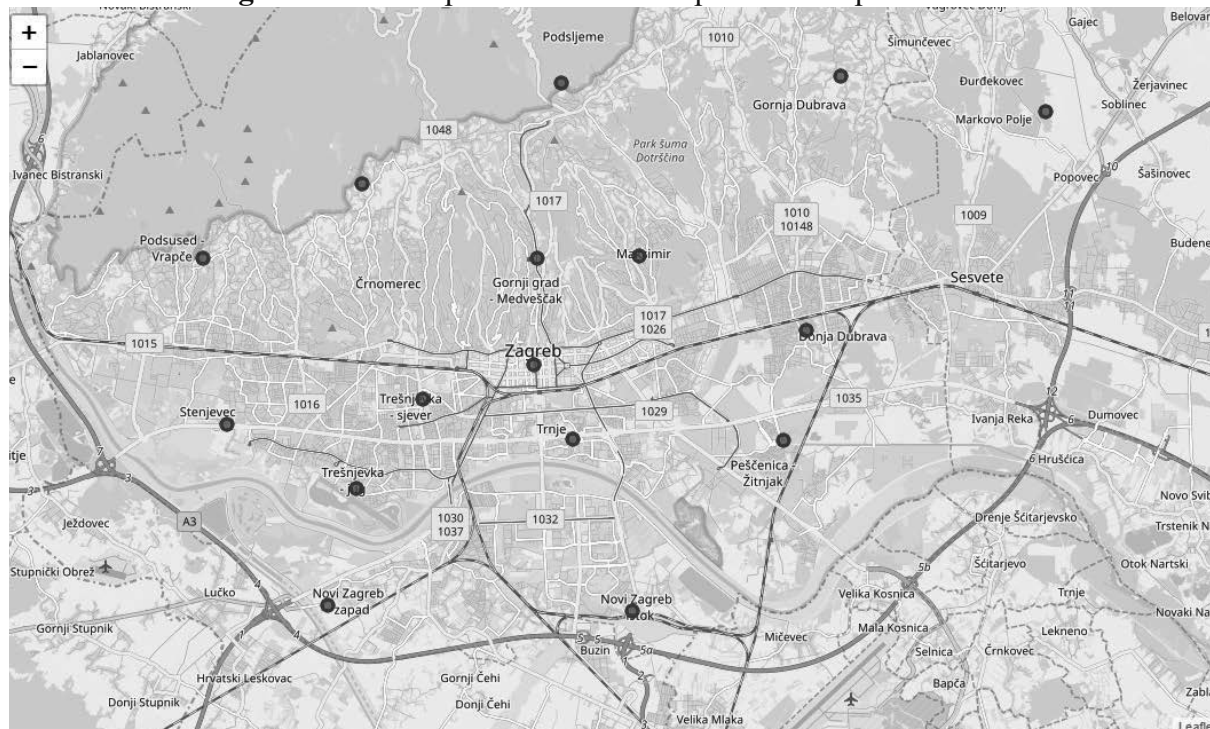
Source: authors

1084 venues were obtained after the data was withdrawn for all 17 municipalities. After withdrawing, the data were prepared for the k-means algorithm but one of the common questions when using the k-means algorithm is how many clusters we want. There are many methods for that decision available in the literature but we tried with all values between 2 and 10 clusters. Results can be seen in table number 2.

Table 2: Number of municipalities in one cluster

Number of clusters	Number of municipalities in one cluster									
1	17									
2	16	1								
3	15	1	1							
4	14	1	1	1						
5	12	2	1	1	1					
6	6	6	2	1	1	1				
7	6	6	1	1	1	1	1			
8	5	5	2	1	1	1	1	1		
9	4	3	3	2	1	1	1	1	1	
10	4	2	2	2	2	1	1	1	1	1

Source: authors

When this data is presented graphically in a way to calculate the standard deviation of the municipality number, we get the graph in figure 5.

Figure 5: The standard deviation of the number of municipalities in a cluster depends on the number of clusters
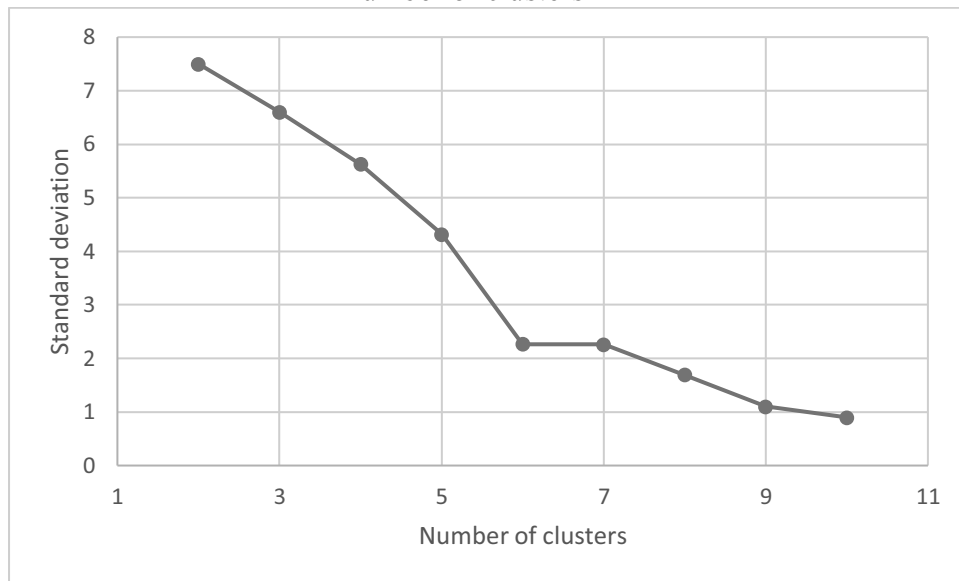
Source: authors

It is interesting that with six clusters there is a sharp drop in standard deviation so six clusters have been chosen. The whole program in Python can be seen on the Github: https://github.com/kristian1971/RED2020_Zagrebstory.

4.2. Results

On figure 6, sixteen central points of six clusters can be seen but in different colours depends on cluster affiliation of the municipality.

Figure 6: Central points of all municipalities (except Brezovica) divided into six clusters
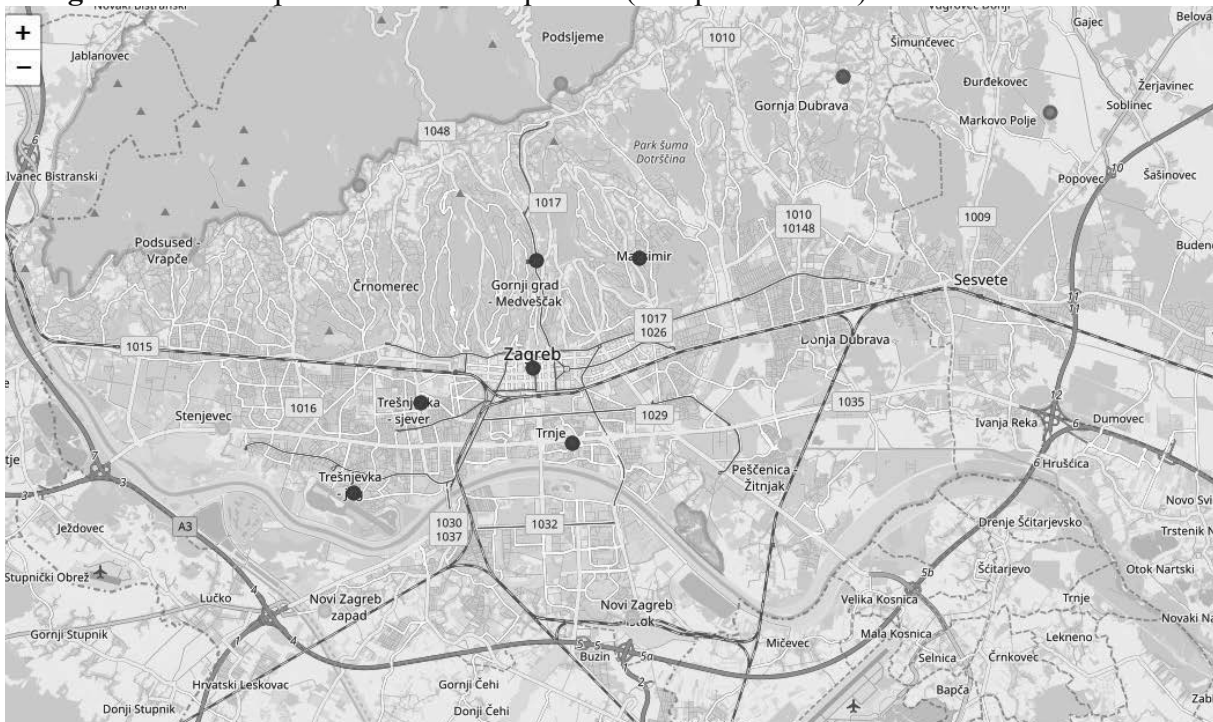
Source: authors

In table number 3 cluster affiliation of all municipalities can be seen, as well as ten the most common venues in a particular municipality.

Table 3: Ten most common venues for all municipalities

	Municipality	Cluster	1st MCV	2nd MCV	3rd MCV	4th MCV	5th MCV	6th MCV	7th MCV	8th MCV	9th MCV	10th MCV
10	Gornja Dubrava	0	Pizza Place	Grocery Store	Forest	Park	Middle Eastern Rest	Diner	Dessert Shop	Dog Run	Drugstore	Food
0	Donji grad	1	Café	Plaza	Restaurant	Bar	Dessert Shop	Hostel	Theatre	Historic Site	Coffee Shop	Burger Joint
1	Gornji grad	1	Café	Dessert Shop	Bar	Plaza	Mediterranean Rest	Park	Pub	Theatre	Hostel	Bistro
2	Trnje	1	Café	Bar	Restaurant	Plaza	Hotel	Pizza Place	BBQ Joint	Coffee Shop	Eastern European Rest	Dessert Shop
3	Maksimir	1	Café	Bar	Dessert Shop	BBQ Joint	Pizza Place	Theatre	Park	Restaurant	Wine Bar	Bakery
7	Tresnjevka - sjever	1	Café	Bar	BBQ Joint	Plaza	Restaurant	Mediterranean Rest	Dessert Shop	Burger Joint	Gym	Park
8	Tresnjevka - jug	1	Bar	Café	BBQ Joint	Pizza Place	Gym	Dessert Shop	Eastern European Rest	Supermarket	Pub	Restaurant
15	Sesvete	2	Restaurant	Café	Wine Bar	Farm	Flea Market	Fish Market	Field	Fast Food Rest	Farmers Market	Electronics Store
16	Brezovica	3	Playground	Farmers Market	Toll Booth	Farm	Wine Bar	Electronics Store	Flea Market	Fish Market	Field	Fast Food Restauran
4	Pescenica	4	Supermarket	Furniture / Home Store	Restaurant	Café	Bar	Bakery	Grocery Store	Bus Station	Plaza	Chinese Restaurant
5	Novi Zagreb - Istok	4	Café	Supermarket	Bar	Grocery Store	Pet Store	Pizza Place	Restaurant	Wine Bar	Shopping Mall	Coffee Shop
6	Novi Zagreb - Zapad	4	Café	Supermarket	Bar	Pizza Place	Restaurant	Nightclub	Shopping Mall	Beach	BBQ Joint	Dessert Shop
11	Donja Dubrava	4	Café	Supermarket	Bar	Pizza Place	Grocery Store	Clothing Store	BBQ Joint	Restaurant	Shopping Mall	Furniture / Home Store
12	Stenjevec	4	Café	BBQ Joint	Bar	Pizza Place	Grocery Store	Fast Food Rest	Eastern European Rest	Supermarket	Electronics Store	Pub
13	Podsused	4	Café	Bar	Grocery Store	Supermarket	Trail	BBQ Joint	Restaurant	Mediterranean Restaurant	Pizza Place	Bus Station
9	Crnomerec	5	Trail	Food	BBQ Joint	Park	Sculpture Garden	Bistro	Café	Restaurant	Castle	Mountain
14	Podsljeme	5	Trail	Café	Grocery Store	Pizza Place	Eastern European Rest	Pub	Bakery	Seafood Rest	Light Rail Station	Restaurant

Source: authors

On figure 7 individual clusters highlighted in different colours can be seen.

Figure 7: Individual clusters highlighted in different colours
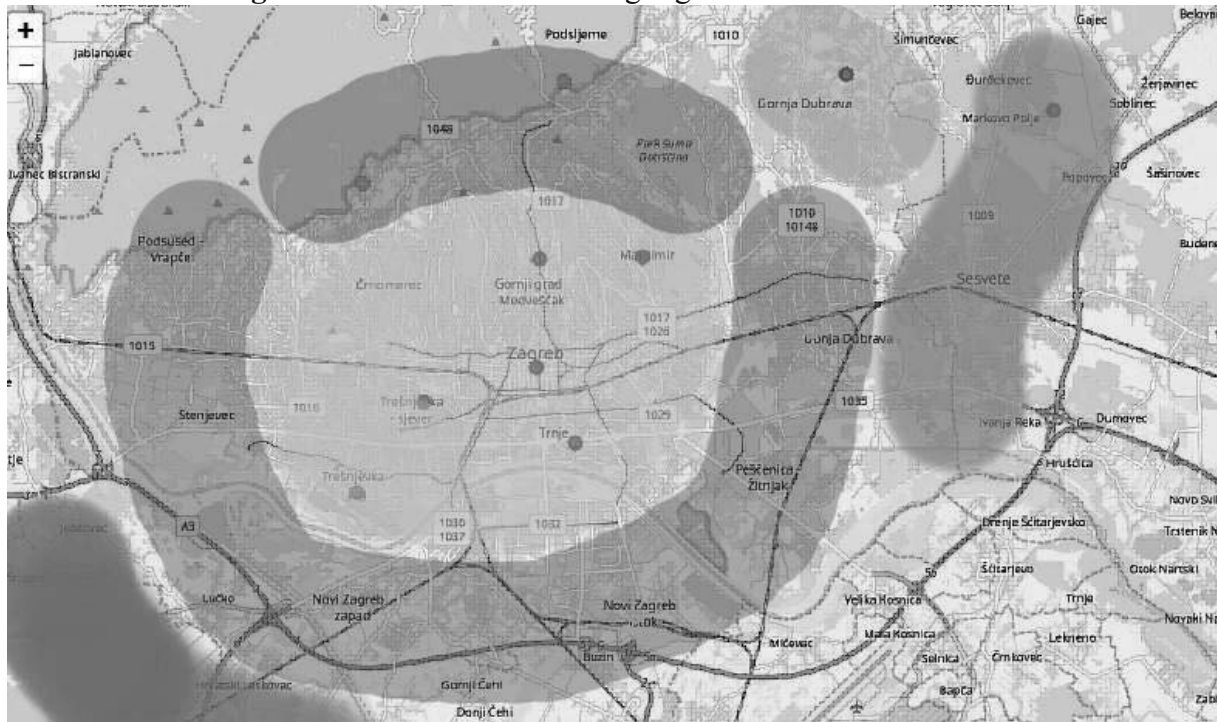
Source: authors

5. Discussion

Many authors used k-means or another clustering algorithm for urban municipalities analyse. Assem et al. used it to discover spatiotemporal functional regions in one Ney York City district (Assem, et al., 2016). Sun et al. proposed method for the city centres detection with the LGOG cluster method using LBNS data (Sun, et al., 2016). Hong and Jung proposed analytical method of cluster analysis for Foursquare data. They conclude that a qualitative approach for fully interpreting and analysing is important. Objects of their analyse were coffee shops in Seattle (Hong & Jung, 2017).

Our approach was a little bit different because we have started with municipalities and defined central points of every municipality. After that Foursquare service was queried and k-means cluster analyse has been performed on that data. Similar municipalities have been put in the same clusters and we have performed analyse with a different number of clusters.

In the literature three main methods for determining the optimal number of clusters have been suggested: silhouette, elbow and gap statistic methods (Krishna, et al., 2018, 301) (Kassambara, 2018). In this paper, we used the simplified method based on standard deviation values of cluster size and propose this method for such simple examples but this method has to be thoroughly compared with other methods.

Final results with six clusters can be seen in figure 7 and table number 3. The information in the table complements the figure and helps with interpretation. Figure 7 points the municipalities that are primarily intended for residential use and they belong to cluster number 4. Cluster number 1 shows that this is a downtown area dominated by café's, bars and restaurants. There are no supermarkets in that cluster between ten the most common venues in the municipality (only in one case). Other clusters are specific and are mostly municipalities on the outskirts of the city.

Finally, these results can be used by the potential investor because cluster division brings objective knowledge to a potential investor. These results can be used as a basis for decision-making or as a test of expert recommendation. The suggested approach is not new but the main contribution of the paper is in the proposed method that can be used on the occasions when we have low availability of quantitative data.

The proposed model can be compared with other models but it is not easy to compare our results with other papers because we couldn't find any published analyse that deals with Zagreb municipalities and clustering. Some organisations like Croatian Bureau of Statistics have quantitative data and they combined data from different sources but they do did not make these data publicly available. Before two years they merged administratively with spatial data from the Register of Business Entities with the Spatial Statistical Register (Croatian Bureau of Statistics, 2018). Posloncec-Petric et al. also published a paper in which they presented the project "GIS database of census districts according to the 2001 population census". This project includes a database with Registry of business units and spatial information. That database is primarily made for the Zagreb City Office for Strategic Planning and Development and it is not publicly available (Poslončec-Petrić, et al., 2011).

6. Conclusion

The paper indicates that it is possible to use just location-based social network data for basic clustering of city municipalities. The city of Zagreb is not as digitized as it could be by the city government but using the available data from the Foursquare service we can obtain usable objective knowledge. With such basic information, potential investors have a more accurate view of the characteristics and similarities of individual municipalities of the Zagreb city. It is very important for foreign investors that are not familiar with the specifics and structure of individual municipalities.

The presented approach can be improved in several aspects. More information from different sources can be included before clustering, like population density or average population income by municipalities. Another possibility of improvement is to include data from other location-aware services like Google Maps, Yelp or Instagram. Croatian Bureau of Statistics has much more accurate data divided by one square kilometre areas so that data can be also used to improve the model.

Finally, our government must recognize that it is in the general interest to make information about business entities and their density available on public services. The availability of this information may make our country more interesting to potential investors and enable our entrepreneurs to develop business based on new technologies.

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A scientific paper

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DIGITAL TRANSFORMATION OF ACADEMIC SPORTS IN THE ROLE OF RAISING THE QUALITY OF UNIVERSITY EDUCATION – CASE STUDY OF FACULTY OF EDUCATION OSIJEK 2014–2019

ABSTRACT

The purpose of this paper is to provide an analysis of the digital transformation of academic sports with an emphasis on its recognizability among student population. Digital transformation is nowadays present in all segments of social life and is an indispensable factor in all activities that surround us. The quality of academic sports at individual components, as well as the quality of the teaching content in physical and health education, certainly has a major role in raising the general quality of studying at a given academic institution, and, to a certain extent, it can be a factor in attracting future students. The fact that developed countries invest considerable funds in academic sports development indicates that they have recognized their potential and significance both for the academic community and the society as a whole. The paper addresses the recognizability of student sport among students themselves, the ways students obtain information on student sporting activities and the extent to which they are familiar with the activities both at faculty and university levels. A survey was conducted among the students of the Faculty of Education of the Josip Juraj Strossmayer University of Osijek. The data obtained by the survey provide answers to questions related to concrete ways of informing the students on academic sports and the extent in which academic sports follow the trends of the digital transformation which has been happening in the entire society. What makes this paper interesting is a comparison of insights over a five-year period, given that the survey was conducted on the same sample (the same number of students per year of study) in 2014 and then again 5 years later. The results precisely show the intensity of certain changes in student population behavior when it comes to academic sports.

Key words: academic sports, digital transformation, internet, digital tools, sports management.

1. Introduction

Academic sport has been experiencing an expansion in multiple directions in the Republic of Croatia over the past several years. This paper will not look into the athletic context of academic sport, but rather highlight its organizational component in the context of developing and improving the quality of university education. The spectrum of activities that academic sport encompasses can in many segments have an impact on the quality of university education, but also on the quality of the entire community. Many developed countries have recognized its importance and are paying increasing attention to it. In the Republic of Croatia, academic sport is leaving the shadow of the academic community and its educational context. The growing profile of academic sport is boosted by a number of marketing activities focused both on students and the public in general. Given the fact that the society is in the process of digital transformation, which we can see all around us, sport is going through its own digital transformation phases. In certain cases, the educational system has recognized the positive effects of digital transformation, for instance it has fully digitized student record books as valid documents. Digital transformation has enabled remote education with digital tools and online learning. In addition, the digital transformation of marketing activities has allowed every higher education institution to open up to the global market and thereby the global competition to attract students. Academic sport plays a certain role in all of the above. The digital transformation of academic sport brings positive effects, it becomes more popular and recognizable among students, and in certain cases it is also a decision-making factor for future students when choosing a university.

This paper will make a comparison of students' preferences between points in time to determine whether and to what extent has their perception of academic sport changed. The research should also provide answers on possible changes to provision of information on academic sport and the efficiency of digital tools with respect to student population. The first survey was carried out in 2014, whereas the new survey was carried out in 2020. The time difference of 6 years is a sufficient distance to determine any changes and predict future trends. Both surveys were carried out in the same manner and on the same size and structure of student population in order to maximize the comparability of obtained data. The result obtained in this research can be an indicator to people in academic sport as to what students perceive as good or bad, and to what extent have positive or negative changes occurred over the six-year period.

2. Theoretical Framework

2.1. University sport as an example of amateur sport and a carrier of the fundamental principles of the Olympic Charter

The document that modern sport is largely based on is the Olympic Charter by Pierre de Coubertin – the father of the modern Olympic Games – whose first paragraph of the fundamental principles says: "[…] Blending sport with culture and education, Olympism seeks to create a way of life based on the joy of effort, the educational value of good example, social responsibility and respect for universal fundamental ethical principles" (Olympic Charter, 2017:10). In doing so, it is important to emphasize that the Charter understood Olympism as an exclusively amateur movement with no right of participation and sometimes with harsh sanctions for those who would get monetary compensation in exchange for their participation (e.g. Jim Thorpe's gold Olympic medals from the 1912 Olympic Games were taken away from him after it was discovered that he

made money in a half-professional baseball league before participation in the Games (Levinson, 1999: 401). Even at the time of Avery Brundage's presiding over the International Olympic Committee (1952-1972), they preserved consistency of "non-contamination of sport with politics and defense of the Olympic movement against the evil of commercialism" (Levinson, 1999: 281). However, during the mandate of Juan Antonio Samaranch (1980-2001), professional athletes were allowed to participate in the Games, which enabled the organization of spectacular Games in Barcelona in 1992 (e.g. the US basketball Dream Team) and commercial changes which would later take place (Levinson, 1999: 284). Taking into account the historical bond between media and sport, commercial requirements and the links as well as the consequential transformation of sport in professional direction – the question remains about the contemporary presence and media representation of amateur sport as a kind of a carrier of the fundamental principles of the Olympic Charter.

One of the areas where sport, with a relatively high quality of performance, has remained amateur (along with its different directions of application in numerous countries) – is academic or university sport. The reason for that is, according to Caplan (2017:19), the fact that amateur distinction exists in order to ensure the prioritizing of obligations of student athletes toward education, while sport is envisaged as a tool for increasing the social component of education and healthy lifestyle. The ability of university sport to provide a quality sports performance and draw media attention, despite being amateur, is confirmed by large and worldwide established events, such as one of the most famous rowing regattas in the world, the one between the Oxford University and the Cambridge University on the river Thames, and the World University Games ("Universiade") under the patronage of FISU (Fédération Internationale du Sport Universitaire /International University Sports Federation), or virtually the entire system of the United States' university sport (NCAA – National Collegiate Athletic Association).

However, university sport has not everywhere developed or became established in the same way, but all over Europe, Croatia included, it is gradually changing and starting to take its place on the sports, social and media stages.

2.2. The System of University Sport in the Republic of Croatia

The topic of university sport has recently become very popular for the Croatian circumstances taken into account that in 2016 Croatia hosted the largest multi-sports event since it became an independent country – the European University Games Zagreb – Rijeka 2016, which marked the beginning of a new period of development for the Croatian university sport. The third edition of this event, whose competent authority is the European University Sports Association (EUSA), took place from 13 July to 25 July 2016, and there were more than 5 thousand contestants in 21 sport from 45 European countries. Taken into account that it was the largest multi-sports event hosted in Croatia since it became an independent country, its organization attracted large media interest, and university sport was broadcast live on public television for the first time since the Summer Universiade 1987 in Zagreb.

The system of university sport in the Republic of Croatia is organized according to the Sports Act, which presupposes that "in order to perform sports activities […] students' sports associations are founded at higher education institutions" (Sports Act, Article 56 paragraph 1). The vertical of the organizational hierarchy from the lowest, faculty level, which deals with physical education and participation of sports teams at intercollegiate competitions within a university, presupposes that "student sport associations operating within one higher education institution associate into a

student sports federation which establishes and manages the system of sports competitions within higher education institutions." (Sports Act, Article 57 paragraph 1). Accordingly, for example, at the level of the city of Zagreb and all higher education institutions and faculties within the University of Zagreb, sports competitions and the system of university sport is under the purview of University Sports Federation Zagreb, in Split under the University Sports Federation Split, in Rijeka under the University Sports Federation Rijeka and in Osijek under the Student Sport Federation of Josip Juraj Strossmayer University. All of the mentioned student sport federations, including ones in other Croatian cities – centers of higher education institutions (Zadar, Dubrovnik, Varaždin, Vukovar, Slavonski Brod, Požega, etc.), according to the Sports Act "[...] in order to coordinate activities of its members, the organization of competitions and care about the status of students athletes are joined in the Croatian Academic Sports Federation with the status of a national sports federation." (Sports Act, Article 57 paragraph 2). The national academic sports federation, aside from annual national championship competitions for representatives of each higher education institution, "[…] takes part in international student sport movements and joins the appropriate international student sport associations, takes care of preparations and participation in Universiades, world, European and similar student championships and games and takes part in their organization" (Sports Act, Article 57(5)). Accordingly, HASS (Croatian Academic Sports Federation) is a member of the European University Sports Federation (EUSA) and International University Sports Federation (FISU).

The system of university sport in the Republic of Croatia, whose carrier is the Croatian Academic Sports Federation on national level, and its constituents on local level, has been unified since 2014 under the brand UniSport, a compound that represents a kind of a synonym for university sport (*UNIversity Sport*), just like in some other countries in the world (e.g. UniSport Austria, UniSport Australia etc.). Accordingly, in its external communication and its communicational channels the Croatian umbrella university federation communicates its messages as UniSport Croatia or UniSport HR, while in the case of local constituents this suffix changes accordingly to the established abbreviation for the city in which the federation operates, that is, UniSport for Zagreb ZG, UniSport ST for Split, UniSport RI for Rijeka and UniSport OS for Osijek.

2.3. The Role of Communication and Media Activities in Sports Organization

According to Nicholson (2007:10), the media have transformed sport "from search for amateurism into a hyper-commercialized industry", and when we take a look at sport through the prism of marketing and media, we should not neglect the role of advertising in this process, because, according to Bertrand (2007:19), "media are the vectors of commercial", so the special kind of "symbiosis" of these two branches of sport is not surprising. Namely, the advertising industry, according to Pedersen et al. (2007:241), has given the best examples of its creativity in the context of sport, associating the healthy lifestyle that sport promotes with its complete opposites, for instance by advertising fast food chains products, alcohol and soft drinks and other products which have over time become indispensable decor of different sport competitions. The media interest for sport goes back to the very beginning of its development, and the interest of media specialized for sport exists for all branches of sport – mass multi-sports and sports events, professional team sports, sports for people with disabilities, school and university sports. One must not neglect the role of the organizer of a sports event in the facilitation of the communication process and in enabling information to reach the service end user or wide audience – via own communication channels, mass media and public relations or all of those means. The range of organizational

activities of a media system in a sports organization is quite wide, and they depend on the size of the sports organization, but, according to Whannel (1992), we can generally talk about the construction of one's own communication channels, from preparing a communication strategy and media plan, PR activities and other promotional activities, establishing media partnerships, to planning live broadcasts. The above mentioned can be supplemented with other activities mentioned by Milne (2016), such as establishing a press center, training volunteers, defining media positions at sports venues etc., of course, in accordance with the needs and size of an organization. In each case, good planning and implementation of media strategy ignores none of the various promotion areas, and a timely and qualitative construction of one's own communication channels as well as developing a relation with the media are key for constant building and maintenance of organization's positive reputation. Media activities in sports organizations serve equally to build a brand, satisfy needs of sponsors and advertisers, as well as to communicate own messages concerning the organization itself or an event. In this process, the convergence of media content (Dwyer, 2010) and adaptation to market and audience requirements are essential, because, in the communicational sense, event organizers need to communicate through an unprecedented number of platforms, especially today in the age of social media, and to convey their message in the form of a text, word and picture – at the same time adjusted to the audience targeted via a given communication channel. The current informational reality is emphasizing the role of audience, and communication in public space with this same audience gives the opportunity of feedback and multi-direction communication, and thus, as Billings claims (2014:10), taking into account the change of the concept of "audience" and the arrival of new technologies, there are also new communication requirements. Through a spectrum of communication channels that is wider than ever before, the audience is at the very in the heart of the communication process as the creator and the recipient of the message – whether we are talking about content commenting, performance rating or the audience's need to enjoy the information standard existing in some other (sports) organizations of the same kind.

Because sport in general, maybe more than ever before, is nowadays seen as a booming business, becoming an industry with huge sums of money invested, it is important to organize the media system within each sports organization well and to plan out and control the entire communication process, where the role of professionals with competences in media and communication, public relations, advertising and marketing, who handle such tasks, is crucial.

3. Research

Sample of respondents
The sample of respondents consisted of 182 students divided into two subsamples. Of that number, 91 students (31 2nd year students and 60 3rd year students) were surveyed in 2014, and 91 students (31 2nd year students and 60 3rd students) were surveyed in 2020.

Variables
The variables consisted of 20 elements of a survey questionnaire on attitudes of students toward student sport and kinesiology classes at Josip Juraj Strossmayer University in Osijek. The variables has been divided in three categories:
1. According to the importance of an event attracting participants to sport events;
2. According to the quality of organization and satisfaction of personal interests;
3. According to the distinctiveness and availability of information on sport events at the University.

Methods of data processing

Data was collected by means of conducting a survey available to the students in offline and online versions. The study was conducted in April 2014 and in February 2020. Basic descriptive parameters were calculated (arithmetic mean, standard deviation, mode, frequency and percentage of mode, minimal and maximal result) for each survey element for both groups of participants. In order to establish differences between the two generations of students, the t-test for independent samples was used with the confidence level $p=0.05$.

4. Results from 2014

The results of the questions asked in the 2014 survey will be presented further, and the next chapter deals with the results of the survey carried out in 2020.

Table 1: Basic descriptive parameters of the sample measured in 2014 for the variable of importance of events at the University

What do you find important and to which extent for you to visit some of the intercollegiate sport competitions?							
	2014						
	Mean	SD	Min	Max	Mode	f Mode	% Mode
participation of my faculty/department	4,86	1,94	1	7	7	26	26,57
participation of my friends from other faculties/departments	5,44	1,77	1	7	7	37	40,66
watching a sport that I like	4,88	1,91	1	7	7	24	26,37
good atmosphere at the competition	4,78	2,15	1	7	7	27	29,67
good conditions at the sports field	3,99	2,01	1	7	1/4	16	17,58
other	2,12	1,9	1	7	1	61	67,03

Source: authors

Table 2: Basic descriptive parameters of the sample measured in 2014 for the variable of organizational quality and satisfaction of personal interests of sport activities

	2014						
	Mean	SD	Min	Max	Mode	f Mode	% Mode
How would you rate the organization of the following activities at your faculty/department?							
physical education	4,69	1,70	1	7	4	21	23,07
extracurricular sport activities	3,45	1,83	1	7	4	18	19,78
To which extent do following activities meet your needs and interests for doing sports?							
physical education	4,25	1,73	1	7	4_6	19	20,89
extracurricular sport activities	3,40	1,84	1	7	1	19	20,88
recreational activities	4,29	2,17	1	7	7	21	23,07
How would you rate the public profile of university sport competitions, compared to other activities intended for students?							
	3,04	1,53	1	7	4	25	27,47
How would you rate your knowledge on students' sport activities at your faculty/department and university?							
	3,04	1,53	1	7	4	25	27,47

Source: authors

Table 3: Basic descriptive parameters of the sample measured in 2014 for the variable of distinctiveness and availability of information on sport activities at the University

To which extent do you agree with following statements?	2014						
	Mean	SD	Min	Max	Mode	f Mode	% Mode
I only know when I have physical education classes	5,37	1,92	1	7	7	39	42,86
I know which sport competitions are available at my faculty	3,25	1,93	1	7	1	26	28,57
I know when sport competitions at my faculty take place	2,69	1,68	1	7	1	28	30,77
I am familiar with achievements of my university at national level	1,89	1,29	1	7	1	50	54,95
I am familiar with achievements of my university at international level	1,76	1,24	1	7	1	56	61,54
If I had an opportunity to engage in a sport I like, I would attend physical education regularly	5,51	1,61	1	7	7	34	37,86
If I knew when and where student competitions take place, I would attend them	4,00	1,76	1	7	5	20	21,98

Source: authors

4.1. Results from 2020

Having presented the results of the 2014 survey, the results of the study carried out in 2020 are presented in the following tables.

Table 4: Basic descriptive parameters of the sample measured in 2020 for the variable of importance of events at the University

What do you find important and to which extent for you to visit some of the intercollegiate sport competitions?	2020						
	Mean	SD	Min	Max	Mode	f Mode	% Mode
participation of my faculty/department	5,15	1,83	1	7	7	31	34,06
participation of my friends from other faculties/departments	5,4	1,79	1	7	7	34	37,36
watching a sport that I like	4,95	1,86	1	7	7	26	28,57
good atmosphere at the competition	5,03	1,89	1	7	7	29	31,87
good conditions at the sports field	4,55	2,07	1	7	7	22	24,17
other	2,1	1,69	1	7	1	56	61,54

Source: authors

Table 5: Basic descriptive parameters of the sample measured in 2020 for the variables of organizational quality and satisfaction of personal interests of sport activities

	2020						
	Mean	SD	Min	Max	Mode	f Mode	% Mode
How would you rate the organization of the following activities at your faculty/department?							
physical education	5,36	1,35	1	7	6	26	28,57
extracurricular sport activities	4,44	1,81	1	7	4	20	21,98
To which extent do following activities meet your needs and interests for doing sports?							

	2020						
	Mean	SD	Min	Max	Mode	f Mode	% Mode
physical education	4,59	1,61	1	7	6	21	23,07
extracurricular sport activities	3,96	2,00	1	7	1/4/6	19	20,88
recreational activities	4,80	1,92	1	7	6	23	25,27
How would you rate the public profile of university sport competitions, compared to other activities intended for students?							
	4,16	1,38	1	7	4	29	27,47
How would you rate your knowledge on students' sport activities at your faculty/department and university?							
	3,97	1,67	1	7	4	24	26,37

Source: authors

Table 6: Basic descriptive parameters of the sample measured in 2020 for the variable of distinctiveness and availability of information on sport activities at the University

To which extent do you agree with following statements?							
	2020						
	Mean	SD	Min	Max	Mode	f Mode	% Mode
I only know when I have physical education classes	5,24	2,08	1	7	7	43	47,25
I know which sport competitions are available at my faculty	4,36	1,87	1	7	3	18	19,78
I know when sport competitions at my faculty take place	3,42	1,97	1	7	1	19	20,88
I am familiar with achievements of my university at national level	2,75	1,80	1	7	1	31	34,06
I am familiar with achievements of my university at international level	2,40	1,62	1	7	1	38	41,76
If I had an opportunity to engage in a sport I like, I would attend physical education regularly	5,33	1,87	1	7	7	36	39,56
If I knew when and where student competitions take place, I would attend them	4,52	1,78	1	7	4	21	23,07

Source: authors

4.2. Comparison 2014–2020

Prior to conclusion, a comparison of results gathered in the studies from 2014 and 2020 will be presented.

Table 7: Differences in variables observed among groups of students in 2014 and 2020

	Mean 2014.	Mean 2020.	t-value	p
What do you find important and to which extent in order for you to visit some of the intercollegiate sport competitions?				
participation of my faculty/department	4,86	5,15	-1,06	0,29
participation of my friends from other faculties/departments	5,44	5,40	0,17	0,87
watching a sport that I like	4,88	4,95	-0,24	0,81
good atmosphere at the competition	4,78	5,03	-0,84	0,40
good conditions at the sports field	3,99	4,55	-1,85	0,07
other	2,12	2,10	0,08	0,93

	Mean 2014.	Mean 2020.	t-value	p
How would you rate the organization of the following activities at your faculty/department?				
physical education	4,69	5,36	-2,94	0,00*
extracurricular sport activities	3,45	4,44	-3,67	0,00*
To which extent do following activities meet your needs and interests for doing sports?				
physical education	4,25	4,59	-1,37	0,17
extracurricular sport activities	3,40	3,96	-1,97	0,05
recreational activities	4,29	4,80	-1,70	0,09
How would you evaluate the distinctiveness in public sport competitions at the university, compared to other activities intended for students?				
	3,04	4,16	-5,19	0,00*
How would you evaluate your knowledge on students' sport activities at your faculty/department and university?				
How would you evaluate your knowledge of students' sport activities at your faculty/department and your university?	2,96	3,97	-4,24	0,00*
To which extent do you agree with following statements?				
I only know when I have physical education	5,37	5,24	0,44	0,66
I know which sport competitions are available at my faculty	3,25	4,36	-3,94	0,00*
To which extent do you agree with the following statements? [I know when sport competitions at my faculty take place	2,69	3,42	-2,67	0,01*
I am familiar with achievements of my university at national level	1,89	2,75	-3,69	0,00*
I am familiar with achievements of my university at international level	1,76	2,40	-2,98	0,00*
If I had an opportunity to engage in a sport I like, I would attend physical education regularly	5,51	5,33	0,68	0,50
If I knew when and where students' competitions take place, I would attend them	4,00	4,52	-1,97	0,05

*p=0.05
Source: authors

The results show the obvious impact of digital transformation on informing students about sports activities. For all variables that show statistically significant differences, results of students in 2020 have higher values. That way they evaluate the organization of kinesiology classes and extracurricular activities which take place at their faculties/department. They also evaluate distinctiveness of sport activities at the University better and are better informed than their colleagues in 2014 were, which is confirmed by their statements on being familiar with sports in which students of their faculty/department take part, as well as with scheduled times of competitions. They are also better informed about the University's sport at national and international levels.

5. Conclusion

The theoretical part of this study presented the importance of academic sport in the academic community, but also in the society in general, which emphasizes how important it is to provide students with high quality and timely information on student sport activities. Media activities and a structured approach to those activities are extremely important for promotion of student sport, and subsequently studying itself. For many students choosing a university program, the content offered for their free time is very important, because recreational and sport activities play an important role. Awareness of students about sport activities is evidently increasing, which boosts

their interest for watching academic sport. Media activities in particular should enable students to involve in sport activities easier, which, by means of the social component of sports, can highly impact the quality of their studying. It is extremely important to mention that participation in sports activities on the student level does not only mean doing sports, but also involvement in supporter activities which affect the quality of university education by means of providing a sense of belonging to a specific group or community.

The research showed that the level of awareness among students in 2020 is higher than among students in 2014, thanks to digital transformation of academic sport. Informing students by means of website updates, social media and other digital tools could be a way to encourage students to involve not only in extracurricular activities taking place at their faculties but also in competition activities at university and even national levels. The approach to digital transformation of primarily media, but also of the management component of the student sport itself can affect its quality and quantity increase, which will surely result with a higher quality university education. Since this study has been conducted at the level of only one constituent of Josip Juraj Strossmayer University in Osijek, namely the Faculty of Education, further studies should encompass all constituents of the University. It would be highly interesting in the future to get an overview of these data at the national level, which would enable comparison of media activity of academic sports depending on each higher education institution.

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THE INTERNATIONAL COMPETITIVENESS OF THE EU AUTOMOTIVE INDUSTRY[1]

ABSTRACT

The automotive industry represents one of the most important contributors to the economy of the European Union (EU). Besides providing employment, car production industry might be essential contributor to foreign trade balance for especially major car producers like Germany, France and other EU Member States. The EU is also positioned as the world's leading producer of motor vehicles. In year 2019, the EU car producers are facing serious challenges. Slower growth of EU industrial production, decreased passenger car production and passenger car registrations, decline in car demand, strict environmental standards and the EU legislative, production restructuring, stronger rivalry proved to impact on the competitiveness of the EU car industry. The main goal of this research is to identify international competitiveness of major car producers (countries) of the EU. The methodology consists of the implementation of chosen international trade indicators of car producers from selected EU Member Countries. The conclusion refers in confirming current international competitiveness of the EU automotive industry and its perspective. The recommendations and proposals are given based on the results of research.

Key words: *the EU automotive industry, competitiveness, export competitiveness, tourism, analysis.*

1. Introduction

The European Union (EU) automotive industry is the world's leading industry in producing motor vehicles. The EU automotive industry is undoubtedly one of the leading contributors to the EU economy. Moreover, EU automotive industry remains as the largest provider of employment to people in Europe (Invest in EU, 2020).

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In details, EU automotive industry provides direct and indirect jobs to 13.8 million European citizens, representing 6.1% of total EU employment. Approximately 2.6 million employees ae involved in direct manufacturing of motor vehicles, representing 8.5 % of EU employment in manufacturing (European Commission, 2020).

The EU automotive industry characterizes highly skilled labour, innovation. Moreover, the EU automotive industry stays as a largest exporter industry of Europe with trade surplus. Over half of all automotive patents were granted to the EU industry in 2018, while generating a €84.4 billion trade surplus for the EU (ACEA, 2020). In addition, Germany is the largest EU car exporter (€ 70 billion, 55 % of total) in 2018. (EUROSTAT, 2020)

In most EU member countries, the automobile industry stands for large industry which contributes greatly to the country's exports, GDP and the overall economy. Moreover, the automotive sector has high level interdependence with other upstream sectors such as steel, chemical, and textile industry. The EU automotive industry is cooperating with downstream industries such as ICT, repair, and mobility services industry (European Commission, 2020).

In the context of the defined research problem, the basic scientific hypothesis of the paper is set up, namely, that it is possible to estimate current state of international competitiveness of the EU automotive industry countries by using common and recognized competitiveness indicators. This paper includes the implementation of commonly used Revealed Comparative Advantages index (RCA index), export import ratio and trade balance indicator.

In this relation, the basic objective of the research is to measure international competitiveness, objectively estimate international trade of the automotive industry in European countries, and to propose measures and activities for improvement of international competitiveness of the EU automotive industry in accordance with the results.

The paper consists of four systematically interconnected sections. After the Introduction, the second part of the paper presents theoretical aspects for measuring competitiveness and previous research. Research methodology incorporated in the third part of the paper. The fourth part implies analytical framework and results of international competitiveness of the EU automotive industry. The final part comprises proposals, recommendations and conclusions.

2. Previous research

Competitiveness can been seen from several perspectives. Competitiveness can be taken depending about the level; micro, meso, and macro levels. Micro-level competitiveness exists at the firm level and is "the ability to produce products/services that people will purchase over those of competitors" (Wijnands et.al., 2008; Nagy J. & Jámbor Z., 2018).

The meaning of competitiveness at the micro-level is quite closely connected to the creation of dual value; a process that includes both the consumer's and the owner's value (Nagy J., Jámbor Z., 2018). Meso-level competitiveness is mainly related to competitiveness of a region. According to Kitson, Martin, and Tyler (2004, p.992), "regional (and urban) competitiveness might be defined as the success with which regions and cities compete with one another in some way". Gorton, Hubbard, and Fertő (2013, p.4) describe regional competitiveness as "the ability to offer an attractive and sustainable environment for firms and residents to live and work".

Meso-level competitiveness is positioned between micro- and macro-level competitiveness and cannot be taken as the aggregation of several firms in a given area, but is a more complex phenomenon. Macro-level competitiveness, or national competitiveness, is "the capability of a national economy to operate ensuring the increasing welfare of its citizens and the sustainable growth of its factor productivity. This capability is realized through maintaining an environment for its companies and other institutions to create, utilize and sell goods and services meeting the requirements of global competition and changing social norms" (Chikán 2008b, p. 25; Nagy J., Jámbor Z., 2018). According to Gerasymchuk and Sakalosh (2007), the economy competitiveness on the basis of systems approach is defined by indexes: profitability, medium explicit costs, factors productivity, growth of factors productivity (microlevel); the indexes of enterprises aggregate competitiveness (mesolevel); the profits per capita, the balance of current account of trade balance, world market segment value, hi-tech products share in the general export (macrolevel); the indexes of institutional organizations, social and cultural values (metalevel).

The idea of competitiveness discussed by Hindls et al. (2003), who call a particular economic subject competitive if it is successful in penetrating the new markets and gaining a comparative advantage in international trade. DTI (DTI, 1994) discusses about company's competitiveness as a possibility for production of corresponding goods and services, at the right time, with the right price. OECD (1992) from the micro aspect defines competitiveness that refers to companies' ability to compete, to maximize profit and realize growth based on costs and prices by using technology, improving quality and maximizing the effect of its products.

The problems of international competitiveness have been studied by many famous scientists and practices. But there is no unified essence understanding of this term (Gerasymchuk and Sakalosh, 2007). Country competitiveness is competitive industrial production of goods and services that advantaged foreign analogues on domestic and international markets. The estimation of economy competitiveness consists of two basic approaches: relative costs results of production and production required present resources.

The export competitiveness with special focus on RCA was discussed within several studies. Spatz and Nunnenkamp (2002) investigated RCA of Germany, Japan, and US as leading automotive manufacturing countries globally, and conclude that globalisation negatively affected the comparative advantage of these countries, especially of the US.

Bekmez & Komut (2006) measured the competitiveness of Turkish automotive industry and compares the results with those of the EU member countries from 1995 to 2004. As measurement tool, authors have used RCA index. The results implied that Turkish automotive industry shows very high improvements even though last two years the index is lessened in some extent. With this good improvement. However, the sector still has some problems to be dealt with countries.

Nur Cinicioglu E et. al. (2012) investigated the relations between the factors that enable national competitive advantage and the establishment of competitive superiority in Turkish automotive industry. Authors used RCA index in their comprehensive analytical model and concluded that technological developments in automotive industry can alter the nature of competition in this industry.

Vošta & Kocourek (2017) used standard methods of statistical analysis of indices of revealed symmetrical comparative advantage (RSCA) to detect the trends characterizing the shape and long -term development of the automobile industry in Europe. Authors investigated 39

countries for the period between 1995 – 2015 for each of the three NACE groups (NACE 29.1, NACE 29.2, and NACE 29.3). The authors emphasized the substantial shift s in production and exports from traditional Western European carmakers in favor of the new EU member states, but also from the USA and Canada in favor of new, fast -growing developing countries in the South and Southeast Asia and in Latin America.

Based on the implementation of RCA indexes, Hudakova (2016) analyzed trade competitiveness of the automotive industry in the Slovak Republic over a period 2010-2015. Author concluded that Slovak Republic has a comparative advantage in production of motor vehicles. Nagy & Jámbor (2018) discussed the RCA of global automobile trade for global automobile exports at HS6 level for 1997-2016. Authors pointed out that the calculation of Balassa indices showed that Spain and Japan had highest comparative advantages in all periods analyzed among the most important automobile exporters in the world.

3. Methodology

The methodological approach based on scientific results of RCA (Revealed Comparative Advantages) index which measure the level of international trade competitiveness of the EU automotive industry). In details, 28 EU Member States were analyzed for the period between year 2013 and 2018.

The subject of analysis is Road vehicles including air-cushion vehicles group (number 78, SITC- Standard International Trade Classification, Rev.4) and its major branches 781, 782, 783, 784, 785, 786.[2] Each one of the branches are analysed using Revealed Comparative Advantages (RCA) Index.

One of the frequently used indices is the RCA Index. The concept of comparative advantage is grounded in conventional trade theory and is widely used in modern economic literature to evaluate the patterns of trade and specialization of countries in commodities which have a competitive advantage (Tripa et.al., 2016). Balassa proposes that values of export performance be used for discovering comparative advantages of a certain economy except for factors of manufacturing costs (Balassa, 1965:93). In his further research, Balassa (1986) limited his analysis to manufactured goods only, as distortions in primary products, such as subsidies, quotas and special arrangements would not reflect the real comparative advantage. RCA index represent post trade relative prices and a prevailing factor as well as product market distortions. The Balassa's RCA Index has been criticized for its weak empirical distribution characteristics (De Benedictis & Tamberi, 2004) and for taking only the exports into consideration while disregarding the imports (Cai & Leung, 2008).

The Revealed Comparative Advantage Index (RCA) was calculated according to the following equation (Balassa, 1978:203):

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[2] Branch 781 represents Motor cars and other motor vehicles principally designed for the transport of persons (other than motor vehicles for the transport of ten or more persons, including the driver), including station-wagons and racing cars; Branch 782 - Motor vehicles for the transport of goods and special-purpose motor vehicles; Branch 783 - Road motor vehicles, n.e.s.; Branch 784 includes parts and accessories of the motor vehicles of groups 722, 781, 782 and 783; Branch 785 - Motor cycles (including mopeds) and cycles, motorized and non-motirized; invalid carriages; Branch 786 - Trailers and semi-trailers; other vehicles, not mechanically-propelled; specially designed and equipped transport containers. More information on Comtrade (2020) https://comtrade.un.org/db/mr/rfCommoditiesList.aspx?px=S4&cc=78

$$RCA_{Ai} = \frac{\frac{X_{Ai}}{\sum_{j \in P} X_{Aj}}}{\frac{X_{wi}}{\sum_{j \in P} X_{wj}}} \geq 1$$

wherein:

P is the set of all products (with $i \in P$),
X_{Ai} is the country A's exports of product i,
X_{wi} is the worlds's exports of product I,
$\Sigma_{j \in P} X_{Aj}$ is the country A's total exports (of all products j in P), and
$\Sigma_{j \in P} X_{wj}$ is the world's total exports (of all products j in P).

The RCA Index measures comparative advantage in the exports of goods «i» of the country «j». If the value is greater than 1, the analysed country has revealed comparative advantages in the exports of goods. Inversely, if the value is less than one, then there is evident lack of comparative advantages in exports of the specific goods. The RCA Index is implemented to present the state of economy along with the expansion of certain products that have market potential. In addition, an insight in the perspective and potential of foreign trade is gained. Countries with similar RCA profiles have highly intensive bilateral trade except for inclusion of intra-industry trade (Bezić and Galović, 2014). On the other side, it is argued that the RCA index is biased due to the omission of imports especially when country-size is important (Greenaway and Milner, 1993).

An improvement of a nation export-import ratio benefits that country in the sense that it can have more export than its value of imports. Moreover, export import ratio and trade balance indicator are used to measure international competitiveness of the EU automotive industry. These indicators refer to total export, import activity and trade balance of the 28 EU Member States from year 2013 to year 2018.

"Export import ratio" indicator shows exports as a percentage of imports. Export- import ratio represents not alternative but complement to trade balance indicator given that one can improve and the other deteriorate at the same time. EXIM ratio can be calculated as follows:

$$EXIM_i = \frac{expo_i}{impo_i} \times 100$$

wherein:
$expo_i$ - export activity of sector "i"
$impo_i$ - import activity of sector "i"

Hence, this indicator (TBAL) is calculated in real numbers of national currencies and highlights the trade pattern of each industry. It can be seen in the following equation:

$$TBAL_i = expo_i - impo_i$$

Trade balance is one of the macroeconomic indicators, which are used to gauge the competitiveness of a sector at national level. When exports exceed imports, the balance is in surplus, and when imports exceed exports, the balance is in deficit (Bezić and Galović, 2013).

All data is derived from UNCTAD Statistical Database (2020) and Eurostat Database (2020).The aim of implemented methodology shows the importance of the international

competitiveness EU automotive industry with special accent on Revealed Comparative Advantages (RCA) analysis.

4. Results

The analysis starts with identification of revealed comparative advantages (RCA) and international competitiveness of the automotive industry of 28 EU countries[3] in the period between 2013 and 2018. Each subsector of the EU automotive industry is investigated within following section. Following Table 1 indicates RCA of subsector 781 of the EU automotive industry.

Table 1: Revealed Comparative advantages of motor vehicles for the transport of persons [781]

YEAR	2013	2014	2015	2016	2017	2018
ECONOMY						
Austria	0,967222	0,892327	0,814386	0,74473	0,883013	1,17879
Belgium	1,761487	1,726765	1,699598	1,739568	1,819924	1,823682
Bulgaria	0,231447	0,211469	0,246229	0,246425	0,250834	0,213182
Croatia	0,029952	0,170281	0,223056	0,27213	0,32705	0,39096
Cyprus	0,345425	0,182174	0,311144	0,230623	0,079999	0,038347
Czechia	2,664496	2,751297	2,648555	2,648536	2,768713	2,804984
Denmark	0,152448	0,158855	0,15978	0,187296	0,236895	0,244333
Estonia	0,489059	0,560492	0,508805	0,563725	0,574639	0,672273
Finland	0,218601	0,528593	0,753439	0,499181	0,964392	1,187199
France	0,921619	0,911791	0,869237	0,857916	1,003527	1,105742
Germany	2,872243	2,880533	2,809177	2,58674	2,572086	2,470015
Greece	0,04977	0,042906	0,052546	0,045577	0,022313	0,023715
Hungary	1,921217	2,638818	2,723471	2,448041	2,350829	2,294194
Ireland	0,00994	0,009263	0,008874	0,004438	0,004083	0,004558
Italy	0,542474	0,590559	0,745815	0,7525	0,841994	0,774001
Latvia	0,330201	0,497737	0,476684	0,508602	0,504408	0,527732
Lithuania	0,634957	0,459975	0,239925	0,213847	0,256218	0,289285
Malta	0,065097	0,096384	0,218402	0,091594	0,038209	0,013391
Netherlands	0,125977	0,168414	0,161649	0,192298	0,288306	0,308244
Poland	0,949467	0,822716	0,813464	0,883088	0,802993	0,698197
Portugal	1,09938	1,107814	1,019374	0,809329	0,928664	1,497839
Romania	1,791539	1,530977	1,299936	1,141265	1,131255	1,714103
Slovakia	4,756569	4,660129	4,495053	4,572452	4,646535	5,862462
Slovenia	1,702672	1,954517	1,809183	1,811967	2,083447	2,218322
Spain	2,631412	2,697695	2,902862	2,88129	2,647169	2,723553
Sweden	0,871528	0,805233	1,094455	1,22259	1,390734	1,746003
United Kingdom	1,956367	2,231242	2,035541	2,262881	2,246332	2,150702

Source: UNCTAD statistical database, 2020

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[3] EU28 countries includes Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania , Slovakia, Slovenia, Spain, Sweden and United Kingdom.

New passenger car registrations in the EU increased to 15.2 million in 2017. That number is about the same as in the years 2001–2007, before the economic crisis that hit new car sales in Southern European countries particularly hard. Registrations in the EU are dominated by Germany, France, United Kingdom (ICCT, 2020). In year 2018, the branch of motor vehicles for the transport of persons recorded the highest export, import activity and trade balance among all investigated branches (Eurostat Database, 2020). Results from Table 1 show highest revealed comparative advantages of Branch 781 in case of Slovakia, Czech Republic, Germany, Spain, Hungary, Slovenia, United Kingdom. It must be added that RCA index of Slovakian automotive industry is more than double than previously mentioned countries. The lack of RCA is evident for automotive industries (Branch 781) of Cyprus, Ireland, Malta, Greece, Bulgaria and Croatia. These results seem very logically because the economy of Malta, Greece, Cyprus, Croatia is mainly based on service sector while Irish economy depends on the performance high-tech industry like IT and pharmaceuticals. Following Table 2 shows RCA of of motor vehicles for transport of goods and for special purpose.

Table 2: Revealed Comparative Advantages of motor vehicles for transport of goods, special purpose [782]

YEAR	2013	2014	2015	2016	2017	2018
ECONOMY						
Austria	1,749931	1,630133	1,544029	1,748056	1,633087	1,626695
Belgium	0,758523	0,822341	0,853811	1,214066	1,468895	1,072251
Bulgaria	0,17743	0,201689	0,152871	0,143302	0,111946	0,12933
Croatia	0,505191	0,630898	0,485961	0,831998	0,621455	0,625991
Cyprus	0,448978	0,591783	0,547863	0,37956	0,22925	0,126837
Czechia	0,178882	0,196807	0,163584	0,180913	0,140438	0,114978
Denmark	0,565089	0,513197	0,42402	0,443235	0,429771	0,517183
Estonia	0,848034	0,661643	0,658004	0,600693	0,607345	0,711771
Finland	1,024982	1,185481	1,275805	1,316804	1,392007	1,303721
France	1,202267	1,350412	1,627982	1,686039	1,761591	1,956966
Germany	1,431725	1,347269	1,306677	1,243968	1,172929	1,286042
Greece	0,075332	0,049677	0,056133	0,03593	0,036852	0,036586
Hungary	0,271359	0,22093	0,211786	0,25479	0,30963	0,382035
Ireland	0,09683	0,088432	0,08401	0,081123	0,066214	0,070792
Italy	1,558884	1,489097	1,62433	1,59551	1,508029	1,560884
Latvia	0,271593	0,320479	0,304187	0,417842	0,756097	1,163655
Lithuania	1,21163	0,844264	0,445458	0,572584	0,829586	0,514644
Malta	0,028242	0,03462	0,344257	0,108637	0,020347	0,034065
Netherlands	0,784132	0,690179	0,870016	0,983504	0,866004	0,794879
Poland	1,444203	1,296921	1,166116	1,199222	1,669881	1,895648
Portugal	2,04551	1,631432	1,37408	1,326745	1,488369	1,742446
Romania	0,175272	0,129566	0,097677	0,062264	0,044857	0,068445
Slovakia	0,418229	0,365757	0,311259	0,285492	0,313241	0,297605
Slovenia	0,378852	0,429797	0,446228	0,503814	0,534524	0,73998
Spain	2,453958	2,709518	2,073828	2,5715	2,310152	2,536811
Sweden	1,55544	1,620668	1,457306	1,351544	1,405177	1,665563
United Kingdom	0,600392	0,522005	0,511125	0,425754	0,466683	0,537201

Source: UNCTAD statistical database, 2020

On the average, the highest level of revealed comparative advantages was recorded in the case of Spain, Austria, Portugal and France. The lack of RCA is evident for automotive industry (branch 782) for Greece, Ireland, Malta, Slovenia. Germany, France and Slovakia have quite volatile trend of RCA through observed period. It needs to be stated that Branch 782 of the EU automotive industry is characterized by the third place by its export and import activity and trade surplus in year 2018. Table 3 explains RCA for the road motor vehicles, n.e.s. under the Branch 783.

Table 3: Revealed Comparative Advantages of road motor vehicles, n.e.s. [783]

YEAR	2013	2014	2015	2016	2017	2018
ECONOMY						
Austria	0,618435	0,619727	0,530662	0,559951	0,689598	0,807532
Belgium	2,554942	2,50336	2,564959	2,221009	1,533677	2,246133
Bulgaria	0,383966	0,43414	0,522745	0,660508	0,658432	0,573727
Croatia	0,27887	0,288731	0,387615	0,460928	0,46238	0,527689
Cyprus	0,123648	0,091149	0,026443	0,035916	0,0163	0,005379
Czechia	1,815545	1,94637	1,627773	1,706498	1,738745	1,576193
Denmark	0,195665	0,14526	0,14176	0,155432	0,158696	0,126669
Estonia	0,326914	0,366722	0,344695	0,503702	0,56233	0,661124
Finland	0,236583	0,331415	0,354127	0,827417	0,855774	0,435106
France	1,321553	1,505217	1,47017	1,588385	1,521693	1,695342
Germany	1,955838	1,868977	1,743737	1,72602	1,614982	1,425679
Greece	0,079793	0,069218	0,066876	0,05944	0,060724	0,073943
Hungary	0,320238	0,213363	0,2532	0,20541	0,168446	0,188171
Ireland	0,031432	0,029024	0,028124	0,036341	0,042068	0,031564
Italy	0,224225	0,176683	0,163357	0,119847	0,10964	0,11507
Latvia	0,569828	0,769303	0,672334	0,869691	0,75082	0,878219
Lithuania	1,850697	1,336727	1,271017	1,880579	2,47945	2,73253
Malta	0,000831	0,047079	0,035824	0,011405	0,045642	0,03338
Netherlands	3,575375	3,197244	3,375884	4,071448	4,143234	3,831653
Poland	3,314038	3,256583	2,798241	3,058755	2,856376	2,651714
Portugal	0,799046	0,735805	1,106639	0,873507	1,045494	0,741176
Romania	0,30314	0,267767	0,307228	0,391283	0,389791	0,474852
Slovakia	0,528552	0,604151	0,66802	0,591975	0,537783	0,510774
Slovenia	0,547972	0,601137	0,642054	0,754894	0,748758	0,635545
Spain	2,213477	1,836506	1,868589	1,879577	1,779	1,37849
Sweden	4,952558	4,041086	3,594808	3,772576	5,465715	4,222715
United Kingdom	0,279222	0,271816	0,197729	0,216903	0,306311	0,304581

Source: UNCTAD statistical database, 2020

Table 3 indicates the relevance of Swedish, Dutch, Polish, Belgic automotive industry in road motor vehicles production. Moreover, these countries reached the highest RCA in general. In average, Malta, Ireland, Cyprus and Greece recorded minimal RCA. In year 2018, branch 783 exported 6,3 billion EUR, imported 2,6 billion EUR with trade surplus of 3,6 billion EUR (Eurostat database, 2020). Table 4 analyzes branch 784 which consists of parts & accessories

of vehicles of Branches 722[4], 781, 782, 783 of the EU automotive industry from year 2013 to year 2018.

Table 4: Revealed Comparative Advantages of parts & accessories of vehicles [784]

YEAR	2013	2014	2015	2016	2017	2018
ECONOMY						
Austria	1,531324	1,461658	1,411832	1,370155	1,416702	1,414044
Belgium	0,802434	0,73719	0,661	0,6685	0,734768	0,735753
Bulgaria	0,203216	0,18561	0,144014	0,171763	0,177988	0,223891
Croatia	0,45235	0,484145	0,563669	0,547961	0,638352	0,871828
Cyprus	0,106628	0,0582	0,035907	0,040301	0,025794	0,03308
Czechia	3,669051	3,771674	3,660912	3,603565	3,625366	3,602249
Denmark	0,443988	0,449262	0,428085	0,386769	0,40606	0,432284
Estonia	0,529613	0,570172	0,562975	0,539677	0,454465	0,477983
Finland	0,211743	0,201999	0,199251	0,200345	0,208998	0,217402
France	1,580709	1,496663	1,364427	1,320382	1,342707	1,279232
Germany	2,004115	2,029269	1,875658	1,834903	1,949738	2,008025
Greece	0,093608	0,10353	0,089313	0,094846	0,104132	0,113992
Hungary	2,141279	2,330014	2,41123	2,466082	2,595111	2,737409
Ireland	0,050042	0,055157	0,049034	0,050364	0,051109	0,046478
Italy	1,483267	1,379205	1,278026	1,185176	1,223694	1,306451
Latvia	0,684377	0,73976	0,785093	0,86737	0,805629	0,763699
Lithuania	0,469727	0,4439	0,428983	0,46896	0,581931	0,450219
Malta	0,09279	0,084024	0,068118	0,113966	0,141868	0,168176
Netherlands	0,392056	0,38478	0,395025	0,384082	0,375609	0,396579
Poland	2,459567	2,466554	2,358074	2,45917	2,517912	2,56851
Portugal	1,922233	2,033252	2,088136	2,067917	2,199079	2,388146
Romania	3,461804	3,717257	3,746171	4,017809	4,640807	4,364593
Slovakia	3,454019	3,382659	3,548667	3,279431	2,77739	2,53619
Slovenia	1,15516	1,168631	1,228682	1,257611	1,252583	1,268768
Spain	1,794183	1,678523	1,59266	1,533974	1,531849	1,700423
Sweden	2,121968	2,0238	1,872411	2,05419	2,085684	1,980041
United Kingdom	0,606474	0,634132	0,638965	0,662532	0,669205	0,669005

Source: UNCTAD statistical database, 2020

In year 2018 branch 784 exported 48,4 billion EUR, imported 23,9 billion EUR of parts and accessories of vehicles with a trade surplus of 24,5 billion EUR (Eurostat database, 2020)**.** The highest level of RCA for branch 784 of EU automotive industry could be found in the case of Romania, Czechia, Slovakia and Poland with result of minimum 3,1 and above. These countries are car producers for big car companies like Renault (Dacia), Volkswagen, Hyundai etc. The lack of RCA was recorded in Cyprus, Ireland, Greece and Malta. We have already stated that these countries are service-oriented economies with confirmed lack of RCA. Large car exporters like Germany ranks 8th, Spain 9th, France 11th and Italy 10th on total RCA scale. These countries are characterized by revealed comparative advantages but still not so

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[4] SITC, Rev 4., Branch 722 includes Tractors (other than those of headings 744.14 and 744.15).

representative like in Romania, Czechia and Slovakia. Following Table 5 reveals motorcycles & cycles section classified under the branch 785 SITC Rev.4.

Table 5: Revealed Comparative Advantages of motorcycles & cycles [785]

YEAR	2013	2014	2015	2016	2017	2018
ECONOMY						
Austria	2,382649	2,561666	2,695235	2,904115	3,16573	3,142027
Belgium	0,9606	0,944633	0,871007	1,019411	1,040746	0,980364
Bulgaria	1,547552	1,825961	1,879727	1,887617	1,737659	2,7826
Croatia	0,051915	0,11935	0,137966	0,253	0,22238	0,193598
Cyprus	0,018667	0,023641	0,030321	0,023548	0,016084	0,019727
Czechia	0,655837	0,63253	0,602575	0,590461	0,610524	0,64713
Denmark	0,545176	0,517918	0,466665	0,538916	0,559345	0,537606
Estonia	0,255719	0,241141	0,192624	0,24807	0,218875	0,26337
Finland	0,106171	0,103641	0,091687	0,100292	0,097665	0,095489
France	0,523032	0,551953	0,543455	0,57202	0,564589	0,572031
Germany	0,742557	0,787936	0,769033	0,783061	0,860176	0,808693
Greece	0,154673	0,129982	0,139885	0,133434	0,159874	0,158495
Hungary	1,135824	1,228212	1,645139	1,334459	0,895345	0,977696
Ireland	0,018162	0,026645	0,021929	0,01303	0,015013	0,012404
Italy	2,126641	2,015298	1,959061	1,895451	1,828007	1,735105
Latvia	0,281027	0,204242	0,230376	0,236168	0,231881	0,1734
Lithuania	1,014154	0,844404	0,934416	0,491501	0,606496	0,888037
Malta	0,091139	0,031032	0,083715	0,061102	0,148652	0,137729
Netherlands	0,948357	0,996126	1,074768	1,143859	1,189457	1,192724
Poland	0,424043	0,418348	0,500767	0,560684	0,515371	0,517501
Portugal	1,597468	1,857338	1,752503	1,975207	1,947986	1,966752
Romania	1,388161	1,352764	1,349629	1,363127	1,338638	1,344456
Slovakia	0,190303	0,172399	0,211985	0,24027	0,320598	0,364904
Slovenia	0,864214	0,998882	0,939788	1,006032	1,016917	0,97496
Spain	0,666295	0,578795	0,541098	0,573709	0,580825	0,625232
Sweden	0,515431	0,508961	0,496175	0,500655	0,475882	0,393964
United Kingdom	0,546627	0,531243	0,443543	0,507504	0,4742	0,466416

Source: UNCTAD statistical database, 2020

Austria, Bulgaria and Italy represent group of EU countries with highest RCA. Austrian companies produce famous brands like KTM, Puch, Rotax, Husaberg while Italians are famous by Ducati, Aprilia, Benelli, Moto Guzzi, MV Agusta, Malagutti, etc. Bulgaria represent important manufacturer of bicycles and e-bikes for the EU market. The total production value in 2016 is estimated at over €136 million of which €15 million was generated by the production of e-bikes. Moreover, the Bulgarian Association of Bicycle Producers has recorded an increase of sales from 53,000 units in 2015 to almost 79,000 units in 2016 at a total market value of €10 million (Bike-EU, 2020). The lack of revealed comparative advantages was recorded Ireland, Cyprus, Malta and Finland. Germany, Spain and Italy rank 10th, 11th and 13th on the RCA scale with better RCA position than Poland, Slovakia and United Kingdom. Following Table 6 shows RCA for Trailers & semi-trailers for the period between 2013 and 2018.

Table 6: Revealed Comparative Advantages of trailers & semi-trailers [786]

YEAR	2013	2014	2015	2016	2017	2018
ECONOMY						
Austria	1,622293	1,552904	1,52745	1,900956	1,550452	1,598313
Belgium	0,80989	0,813832	0,860789	0,895433	0,810037	0,796918
Bulgaria	0,484397	0,41333	0,335227	0,369263	0,39733	0,414885
Croatia	1,234071	1,149557	1,063191	1,304093	1,197691	1,262869
Cyprus	0,076347	0,08299	0,087558	0,04042	0,025908	0,054196
Czechia	1,267951	1,101428	1,05726	1,219377	1,100966	1,129503
Denmark	1,543793	1,146751	1,197745	1,331628	1,267312	1,148445
Estonia	3,350776	3,185419	3,00311	3,370764	3,139046	3,203362
Finland	1,511465	1,462378	1,491226	1,684015	1,366708	1,367296
France	0,814996	0,783962	0,764661	0,820228	0,696977	0,687159
Germany	2,197586	2,093752	2,002443	2,284894	2,15178	2,210722
Greece	0,344697	0,123766	0,100598	0,133621	0,147035	0,126011
Hungary	2,858229	2,842282	2,741913	2,984148	2,699024	2,82833
Ireland	0,238907	0,271704	0,267073	0,252065	0,249709	0,217171
Italy	0,720717	0,65809	0,655057	0,727118	0,653708	0,683917
Latvia	2,542083	1,812477	1,468789	1,506303	1,537343	1,79665
Lithuania	3,608297	2,482177	1,902236	2,898085	3,315712	3,289615
Malta	0,050519	0,17228	0,122656	0,051842	0,139857	0,138623
Netherlands	1,065536	0,986215	1,134399	1,330448	1,208087	1,141459
Poland	2,512117	2,184232	2,0659	2,479381	2,339869	2,506809
Portugal	0,863733	0,752846	0,706781	0,578801	0,534528	0,504276
Romania	0,544075	0,461584	0,472912	0,49604	0,538291	0,696216
Slovakia	1,541649	1,463416	1,583476	1,569087	1,456506	1,501174
Slovenia	2,589575	2,32232	2,626522	3,197225	2,816131	3,026867
Spain	0,485591	0,53841	0,48557	0,516222	0,528879	0,631476
Sweden	0,888345	0,762074	0,73552	0,762204	0,634489	0,654703
United Kingdom	0,593125	0,619305	0,579587	0,627431	0,653029	0,633156

Source: UNCTAD statistical database, 2020

In Figure 6 Estonia, Lithuania, Hungary proved to be countries with the highest level of revealed comparative advantages in branch 786 of EU automotive industry. Germany's RCA is positioned on 6th place, right after Poland. Germany represents the largest trailer producer in the EU. One of the characteristics is that most of its production is marketed internationally, making it the only net exporter of trailers in the EU. Furthermore, Germany is home to the three largest semi-trailer manufacturers in Europe- Schmitz Cargobull, Krone, and Kögel (ICCT (a), 2020). Poland is on the 5th place by its RCA. Polish manufacturer Wielton accounts for more than 60% of the country's production. Why are Estonia and Lithuania on the RCA top? German Schmitz Cargobull has production facilities in Lithuania while in Estonia the production value of the motor vehicle, trailer and semi-trailer industry came to approximately 316.2 million euros in year 2015 (Statista, 2020). Trailer and semi-trailers industry in Estonia have the share of approximately 22% in total export. Cyprus, Malta, Greece and Ireland are positioned on the bottom of the scale and confirmed to be countries with deepest lack of RCA in whole EU. Next Table 7 shows export-import ratio indicator for EU28 automotive industry from year 2013 to year 2018.

Table 7: Export-import ratio for EU28 automotive industry

EU28	2013	2014	2015	2016	2017	2018
Export import ratio	466	437	395	326	293	276

Source: Eurostat statistical database, 2020

Table 6 confirms that exports exceeds imports of European automotive industry within observed period. However, there is decreasing trend of export-import ratio for EU28 automotive industry. One of the reasons could be found in the fact that imports grew faster that exports through observed period. Initial period was characterized with higher results of export-import ratio indicator while years 2017 and 2018 proved to have lower numbers of export-import ratio. Just for an example in year 2018 there was slight decline in EU car export volumes (-1.6%) and a substantial increase in imports (+9.3%). In year 2015, EU exports of heavy commercial vehicles and buses increased (+2.3%), while the export value of light commercial vehicles remained stable (+0.9%), worth around €4 billion. Despite a significant increase in total commercial vehicle and bus imports (+27.7%), the EU's trade balance remained positive over the year, with a trade surplus of €3.8 billion (ACEA,2020). Following Chart 1 illustrates export, import along with trade balance of EU28 automotive industry for the period between 2013 to 2018.

Chart 1: EU-28 automotive industry export, imports and trade balance in motor cars
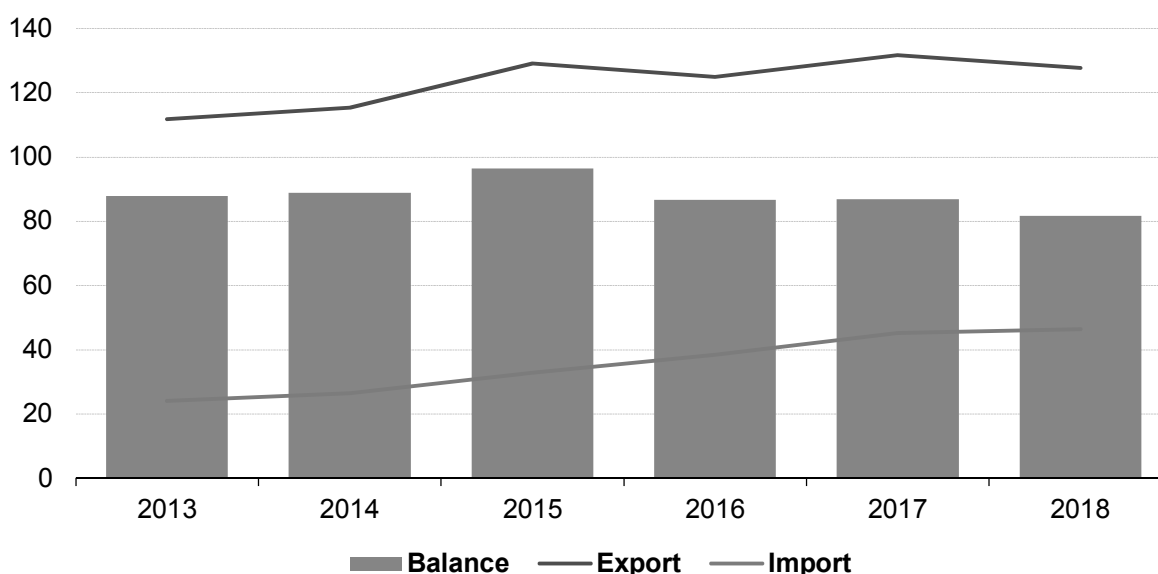
Source: Eurostat statistical database, 2020

The observation of Chart 1 indicated strong trade surplus of the EU automotive industry of 28 EU Member States. However, the weak volatility is present. An increase of trade surplus of the EU automotive industry is characterized for years 2014-2015 and 2016-2017 while the decrease is evident for years 2015-2016 and 2017-2018. It is evident, that in year 2018, there was a sharp decline in the registrations of new passenger cars in Europe. The regulations connected to technological changes and higher requirements for the reduction of CO_2 emissions, had implications on the (international) competitiveness of the EU automotive industry. Moreover, the decline in German exports was strongly influenced by the collapse in the exports of diesel-powered cars, which decreased by over 180,000 units, i.e. by 40 per cent compared to the third quarter of year 2017 (Obserwatorfinansowy, 2020). The downturn in the automotive market has consequently contributed to a slowdown in the EU. Although Poland currently isn't

included among the leading car exporters in the European Union, it is still heavily influenced by the economic situation in the European automotive market. This is because it is one of the biggest exporters of automotive parts in the EU.

5. Conclusion

The basis hypothesis of the research is confirmed, pointing out that it is,, possible to estimate current state of international competitiveness of the EU automotive industry countries by using common and recognized competitiveness indicators". In details, we have tested Revealed Comparative Advantages (RCA), export-import ratio and trade balance of automotive industry for EU 28 Member States between 2013 and 2016.

This research included individual and general approach in the analysis of Revealed Comparative Advantages and international competitiveness. Special focus was put on main branches of the EU automotive industry and its categories. Motor cars and other motor vehicles for the transport of persons (Branch 781), Motor vehicles for the transport of goods and special-purpose motor vehicles (Branch 782), Road motor vehicles, n.e.s. (Branch 783) parts and accessories of the motor vehicles (Branch 784), Motor cycles (including mopeds) and cycles (Branch 785) and Trailers and semi-trailers (Branch 786) were main part of the research.

Germany, Slovakia, Poland, Czech Republic, Romania, Spain and France confirmed to be countries with highest level of RCA for the most of examined branches. It is evident that the biggest car production facilities are in previously mentioned countries. On the opposite, Greece, Malta, Cyprus and Ireland recorded the lack of RCA. This makes sense because these countries do not have developed automotive industry.

The negative macroeconomic repercussions affected the German economy to the greatest extent, but they were also felt in several other EU countries, owing to the strong international ties within the European automotive industry. EU automotive industry faces challenges like environment legislative (EU legislative – new emissions standards), decrease in demand (declines in the number of registrations of new passenger cars), technological changes (diesel motor engines), new market trends with bright future (electric vehicles (EV) market). Just for an example, The Volkswagen group suffered the most, reaching a decrease of registrations of nearly 50 per cent.

Bright news could be seen from the perspective trade surplus from 2018, which is on higher level than in year 2013. However, the trade surplus show volatility and small instability. To be a strong competitor in automotive industry on a global level, EU car companies need to restructure their production, absorb changes and transform it to its comparative advantages.

Due to the current COVID-19 lockdown in year 2020, the perspective of EU automotive industry looks very unstable and uncertain. The world demand and supply for the products of automotive industry recorded sharp decline which will additionally impact on international competitiveness on a negative way. In order to weaken negative effects of COVID-19, EU automotive closed their factories in order to reduce fixed costs of production. For the future, it is expected that the EU automotive producers will orientate themselves towards intensified implementation of costs- efficiency methods. These methods would reduce the negative impact on current level of their international competitiveness.

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A scientific paper

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BUDGET FUNDING AND ECONOMIC IMPORTANCE OF CULTURAL AND CREATIVE SECTORS IN CROATIA

ABSTRACT

The cultural and creative sectors (CCS) are a sector whose activities are based on the cultural values and creativity, whose value for national economy shows valuable effect, it is prerequisite for development Creative economy and has strong impact on society. As well, the New European Agenda for Culture and the New Work Plan for Culture 2019-2022 emphasizes the importance of CCS for innovation, job creation, cohesion and the well-being of society.

The aim of this paper is to analyze the significance of the CCS for the Croatian economy and the level of recognition by the policy makers which was measured through the level of national support with the emphasize on the support directed towards financing of its international cultural cooperation. The authors conducted the statistical analysis of official data published by Eurostat, Croatian Bureau of Statistic and the Croatian Ministry of Culture and gave the overview of the relevant literature in the field of the research.

It was found that the cultural employment and the number of entrepreneurs have decreased; nevertheless they succeeded to achieve the growth of added value. As well, it was determined that the national budget support for CCS has increased during the observed period, which proves that the policy makers are recognizing their significance and developing models for their support. Following, by the analysis of the recent literature, the authors gave the recommendation of the model for support of further development of CCS, which covers financial and other forms of support.

Key words: *cultural and creative sectors (CCS), cultural employment, expenditure on culture, international cultural cooperation.*

1. Introduction

The Cultural and creative sectors (CCS) have been recognized as important contributors to social development in different key European policy documents (EC, 2013, 6) where it is positively influencing and promoting the European identity, culture and values (Haršanji et al., 2018) to which, as well, the cooperation of project partners from different European

countries on joint project, significantly contributes. According to Haršanji et. al (2018), some of the value added created at European level through the international project co-operations relates to development of a European mindset, enhancement of the quality of partnership activities, creation and strengthening the networks and contacts for future co-operations and development of a common European identity. For years the EU has been providing support for European culture and the audio-visual sector through different financing programmes, contributing to building European CCS. Within the new Creative Europe programme (2021-2027) organisations in CCS will have the opportunity to realise technologically and artistically innovative European transnational initiatives for the exchange, co-creation, co-production and distribution of cultural and creative products and services that will be available to a broader audience. Even though the implementation of the Creative Europe programme so far has delivered a number of positive effects, the programme has its disadvantages, such as an insufficient budget to meet the demand. However, the new budget is additionally increased for 26.71% on € 1.85 billion (in the previous programming period it was € 1.46 billion).

CCS's activities are based on cultural values and/or artistic and other creative expressions, irrespective of whether those activities are profit or non-profit oriented. These activities include development, creation, production, dissemination and conservation of goods and services that embody cultural, artistic or other creative expressions, as well as related functions such as education or management. Bakhshi (2019) gave reasons why the CCS in UK became recognized on policy level and accepted as industry. "These institutional factors for the growing recognition of the UK's creative industries are the product of years of dedicated research directed toward policy agendas and impact.

- the creative industries are accepted by government as playing an integral role in the digitisation of the economy and vice versa.
- policy-focused research has become much better at measuring the economic contributions of the creative industries, including understanding the significance of digital technology within it.
- the UK Government has placed R & D at centre stage of its industrial strategy, and there has been initial success in making the case for public investment in creative industries R & D.
- the sector has organised effectively to represent its interests to government, with influential sector-wide bodies like the Creative Industries Council and, more recently, the Creative Industries Federation" (Bakhshi, 2019, 27).

Following the analyzed relevant theory on the level of EU and member countries, the authors wanted to investigate the situation in Croatia. Therefore the aim of this paper is to analyze the significance of the CCS for the economy of Croatia and the level of their recognition by the policy makers. For that reason, the authors have set the research statement that the importance of the CCS is in growth and being recognized by the policy makers. For that purpose the authors gave an overview of the relevant recent literature in the field of research and conducted the statistical analysis of official publications of Eurostat and the Ministry of Culture of the Republic of Croatia.

This paper is structured as following: the chapter two gives the recent literature review about the importance of CCS for national economies as well as trends that are impacting its development. Chapter three gives the methodology of the research whose results are presented by the chapter four. The following chapters are giving the discussion and conclusion as well as research limitations and the recommendations for the future research.

2. Literature review

The CCS are structured by numerous micro and small enterprises, numerous non-governmental organizations (NGOs) and local associations (Dovey et al., 2016), individual artists (Hearn et al., 2004) who are usually non-conventional, have part-time employment, temporary contracts, or are self-employment (Skoglund, 2012). The importance of NPOs in CCS is, among other things, in "promoting culture and creativity across regions" (Zbuchea, Leon, 2015 in Cruz et al., 2019, 2). The multidisciplinary nature of the cultural and creative workforce is "moreover consistent with the literature identifying the competitive advantage for companies that combine skills in art and science, the so called 'fusion skills'" (Nesta, 2016). "On the economic side, CCS is growing fast and has shown to be resilient to the economic crisis" (KEA, 2019a, 10). According to the EIF[1] (2019, 6), European CCSs have had 6.7 million employees and more than 2.4 million companies in 2016. "Recent studies from regional to European level have highlighted the considerable economic weight of the CCS (number of businesses, added value, employment) as well as the significant spillover effects that they generate for other industrial sectors" (EC, 2019a, 10). The innovative power of CCS "is essential for further development of European economies and societies, because it:

- generates well-being and cohesion;
- shapes the public space used by millions of Europeans;
- modernises industries and business sectors with new creative input and methods;
- provides meaning and a sense of belonging;
- upgrades urban and rural areas;
- designs products and services;
- produces and digitises content;
- enriches visual experiences;
- provides content for debates" (EC, 2018a, 6).

The development of CCS is nowadays increasingly influenced by different global megatrends, including digitalisation. Activities like listening to music, playing video games, reading the papers or watching films have become unimaginable without the internet, which is also increasingly used for other culture-related purposes, such as buying cultural products like books, magazines or concert tickets, or visiting virtual theatres and museums. "Digital technologies are more than a 'contextual factor'; they are often an 'enabling factor', or even a radical step in the context of the new industrial revolution, changing the way culture and CCS products and services are produced and accessed, and how knowledge is transferred" (EC, 2018a, 11).

The European Union (EU) supports CCS, among other things, through various funding programmes, most importantly the Creative Europe Programme[2], which supports the European culture and audio-visual sector. It also seeks to enhance European cultural and linguistic diversity, promote European cultural heritage, and strengthen the competitiveness of European organizations operating within CCS. Cultural exchanges can result in added economic benefits. In that regard, the EU supports projects facilitating the interconnection of CCS activities, including culture and audio-visual contents, using innovative technological solutions in order to increase the competitive advantage of institutions in CCS. As well, "the Ministry of Culture (on national level) and larger cities (on local level) are major founders of international cultural cooperation projects and initiatives" (Compendium, 2016).

The number of non-profit organisations and public institutions that have access to co-financing of cultural activities and programmes from public sources is in rise in Croatia.

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[1] European Investment Fund
[2] More information at https://ec.europa.eu/programmes/creative-europe/node_en (18 February 2020)

Cultural and creative artists are also showing an increasing interest in international cooperation, and Croatian cultural institutions, non-governmental organisations and other professionals are active members of international organisations in culture and arts.

Given their undeniable significance the aim of this paper was to analyze the role of CCS for the economy of Croatia, where the authors wanted to analyse whether the importance of the CCS is recognized by the policy makers as well. This statement was tested through the analysis of budget funding of culture during the period 2014 to 2018. The level of recognition of the government was measured by the grant value and number of projects approved in the observed period.

3. Methodology of the research

In the frame of this research the authors analyzed cultural employment, enterprises in cultural sectors and expenditure on culture in Croatia. The authors conducted the statistical analysis of official publications of Eurostat and the Ministry of Culture of the Republic of Croatia as well; they gave an overview of the relevant recent literature in the field of research. Information on the companies in CCS were analysed using two different statistical analyses, "Structural Business Statistics" (SBS), which describes the structure, conduct and performance of enterprises (e.g. value added, turnover, personnel costs) within the non-financial economy and "Business Demography" (BD), which includes indicators such as enterprise birth and enterprise death rates or enterprise survival rates, and cover the cultural market-oriented activities. In the frame of mentioned methods, the authors have analysed the following characteristics of CCS in Croatia:

- the structure and number of cultural enterprises,
- employment in culture,
- engagement of the population in cultural activities,
- public expenditure on culture.

The general importance of international cooperation in culture and approved projects in culture financed by the Croatian Ministry of Culture 2014 - 2018 are likewise discussed. Projects within the Creative Europe programme are one of the important programme activities which can be co-financed from the budget of the Ministry of Culture. Croatian programme applicants who have received funds from EU budgets can also apply to the calls for funding published by the Ministry of Culture.

For the purpose of conducting this study, the authors analysed data collected from the publications of the European Commission and the Croatian Ministry of Culture, as well as Eurostat's statistical data. The methods which the authors used include induction and deduction, analysis and synthesis, classification, and the statistical methods.

4. Analysis of CCS in Croatia

"Compared to other sectors of the economy, culture has an additional dimension – it not only creates wealth but it also contributes to social inclusion, better education, self-confidence and the pride of belonging to a historic community" (Titan et al., 2008, 930). At the same time, "creativity and culture have a significant non-monetary value that contributes to inclusive social development, to dialogue and understanding between peoples" (UN, 2020).

According to Sava et al. (2017, 79), "culture is the long-term runner for development. Also culture can be seen both as cause and as effect of the economic development; as cause of the economic development – it is the source of generating employment and revenues and as effect - due to peoples' habits of spending on culture when the incomes are higher".

Since Croatian cultural policy underwent radical changes in the 1990s, the importance of the

cultural sector only started to be recognized in the early 2000s, when the number of new non-profit organisations in the CCS increased (specially in the field of music, film, audio-visual arts etc). Considering that CCS only started to be noticed by the general public in the recent years in Croatia, there is still no official framework that would provide an exact definition of CCS or agreed unified model for support their development. The Croatian cluster of competitiveness of creative and cultural industries (HKKKKI)[3] mapped cultural and creative industries in Croatia in 2015 and determined that CCI in Croatia are composed of 45 industries divided into 12 subsectors.

The importance of these relativity new sectors is not only considering the people employed in CCS, but it has more social and economic importance. According to Newbigin (2010, 28), the real significance of the CCS "lies not only in their economic value, or even in their wider social and cultural impact, but in that they provide a template for the way in which other economic sectors need to change if they are to survive and prosper in the digital age".

In the following chapters, the authors analysed the importance of CCS for the Croatian economy and gave an overview of the impact of international (cultural) cooperation on its development.

4.1. Cultural enterprises

"An enterprise is defined as an organisational unit producing goods or services which have a certain degree of autonomy in decision-making; it can carry out more than one economic activity and it can be situated at more than one location" (EC, 2019b, 101). Cultural enterprises active in cultural (and creative) sector are classified according to economic activity (NACE Rev. 2[4]). As mentioned in the previous chapter, the information on these companies were analysed using two different statistical analyses, "Structural Business Statistics" (SBS) and "Business Demography" (BD). The presented number of cultural enterprises in Croatia 2014-2016, classified by their activities, was extracted from the Eurostat publications, analysed using the SBS method and results presented through Table 1.

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[3] For more information see https://hkkkki.eu/index.php/o-hkkkki/ (19 February 2020)
[4] NACE is derived from the French title "Nomenclature générale des Activités économiques dans les Communautés Européennes" (Statistical classification of economic activities in the European Communities).

Table 1: Number of cultural enterprises in Croatia 2014 - 2016

NACE Rev. 2 activities		Structural Business Statistics (SBS)	Number of companies			Change in 2016 vs 2014
			2014	2015	2016	
C18	Printing and reproduction of recorded media	X	1,454	1,346	1,291	-11.20%
M7111	Architectural activities	X	1,181	1,214	1,270	7.50%
M741	Specialised design activities	X	859	885	934	8.70%
J59	Motion picture, video and television prog. production, sound recording and music publishing activities	X	587	610	633	7.80%
M743	Translation and interpretation activities	X	520	551	548	5.40%
	Other business activities:		2,057	2,009	1,913	-7.00%
M742	Photographic activities	X	497	508	505	1.60%
J5811	Book publishing	X	386	374	371	-3.90%
C3212	Manufacture of jewellery and related articles	X	287	263	252	-12.20%
J60	Programming and broadcasting activities	X	216	210	202	-6.50%
G4762	Retail sale of newspapers and stationery in specialised stores	X	198	190	175	-11.60%
J5814	Publishing of journals and periodicals	X	187	184	175	-6.40%
J5813	Publishing of newspapers	X	119	107	101	-15.10%
G4761	Retail sale of books in specialised stores	X	56	56	46	-17.90%
C322	Manufacture of musical instruments	X	32	34	32	0.00%
J6391	News agency activities	X	42	51	29	-31.00%
J5821	Publishing of computer games	X	9	9	12	33.30%
N7722	Renting of video tapes and disks	X	24	19	10	-58.30%
G4763	Retail sale of music and video recordings in specialised stores	X	4	4	3	-25.00%
	Total		**6,658**	**6,615**	**6,589**	**-1.0%**
	Decrease from the previous year			-0.6%	-0.4%	
	Decrease in comparison to year 2014			-0.6%	-1.0%	

Source: Authors' work according to Eurostat publication (EC, 2020d, 2020f)

The table above reveals a downward trend in the total number of cultural enterprises in Croatia 2014 - 2016, where 61% (11 out of 18) of analysed business activities have shown negative trend in 2016 in comparison to 2014 (that was still a year of long lasting economic crises in Croatia). By observing three years (2014 – 2016) the negative trend was slowing down in 2016, but the total decrease in numbers of CCS enterprises in comparison to the base

year (2014) was 1% (decrease for 69 enterprises). In comparison, the average number of cultural enterprises in the EU-27 is 5% (Eurostat, 2020c). However, cultural enterprises operating in architectural and specialised design activities and video and TV programme production had a tendency of growth. The graph below presents the structure of enterprises by area of activity in 2016 in CCS in 2016.

Graph 1: Structure of CCS enterprises in Croatia by area of activity in 2016 (%)
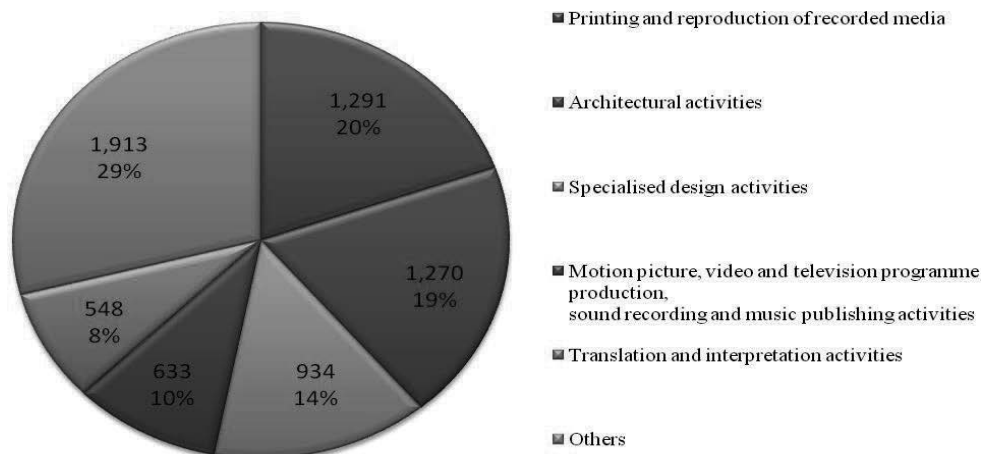
Source: Authors' work according to Eurostat publication (EC, 2020d, 2020f)

As shown in the previous graph, most of the enterprises in the cultural sector were active in "Printing and reproduction of recorded media" (20%), "Architectural activities" (19%) and "Specialised design activities" (14%) where, as shown by Table 1, only "Printing and production of recorded media" achieved negative results of the companies active in 2016 in comparison to 2014.

By observing the structure of the active enterprises in Croatia in all industry sectors, the overwhelming majority (99.7%) were small and medium-sized companies (SME's) (including micro-sized enterprises) which are generating more than half of the value added (61.3%) of non-financial business economy (DZS, 2018). Table 2 shows the total number of cultural enterprises in relation to the total number of all enterprises in non-financial business in Croatia (i.e. national economy excluding financial and insurance activities).

Table 2: Number of cultural enterprises in Croatia in relation to the total number of enterprises 2014 - 2016

	2014	**2015**	**2016**
Total number of enterprises	**147,337**	**146,637**	**147,481**
Change in comparison to 2014 (%)		-0.48%	0.58%
Number of cultural enterprises	**6,658**	**6,615**	**6,589**
Change in comparison to 2014 (%)		-0.65%	-0.39%
The share of cultural enterprises in total number of enterprises (%)	**4.52%**	**4.51%**	**4.47%**
Change in comparison to 2014 (%)		-0.01%	-0.05%

Source: Authors' work according to Eurostat publication (EC, 2020c)

The table above shows the decrease in the number of cultural enterprises in Croatia in the period 2014 - 2016. But, by observing only the number of cultural enterprises the impact on the total economy of Croatia cannot be seen, so the results of the analysis of value added at factor cost was presented. The value added is showing how activities of CCS are contributing to general wealth.

According to Eurostat (2020a), measured by its share in non-financial economy, the value added at factor cost of cultural enterprises in 2015 - 2016 was EUR 527.5 million and EUR 546.3 million, that is growth of 4%, i.e. growth from 80 thous. EUR to 83 thous EUR per enterprise per year. The value added of total business economy in Croatia 2015 - 2016 was approximately EUR 21.2 billion and 22.1 billion, respectively in which CCS achieved an equivalent to 2.49% and 2.48%, respectively.

Thus, the analysis showed that a smaller number of cultural enterprises in 2016 compared to 2015 generated a higher EUR amount of value added.

4.2. Cultural employment

The scope of cultural employment on the one hand includes employment in companies practising activity in the cultural domain – economic activities (NACE Rev. 2[5]), and on the other employment in cultural occupations (ISCO-08[6]). Cultural employment arises in 3 forms:

- The working population that both exercises a cultural occupation and works in the cultural sector (e.g. a singer in a singing company).
- The working population that exercises a cultural occupation outside of the cultural sector (e.g. a designer in the video game industry).
- The working population that exercises a non-cultural occupation in the cultural sector (e.g. an accountant in a photographic studio).

The CCS labour market is defined as a high level of flexibility because it includes part-time, self-employment and multiple job holding (Feist, 2002, 20-21; Pratt, 2017 in Cellini et al., 2018, 9).

The following table presents cultural employment in EU-27 and Croatia (based on the total number of employees) in the period 2014 - 2018 as a percentage of total employment.

Table 3: Cultural employment by sex 2014 - 2018

Level	2014	2015	2016	2017	2018
EU-27* (%)	3.6	3.6	3.6	3.7	3.7
Croatia (%)	3.8	3.4	3.1	3.5	3.3

Source: Authors' work according to Eurostat publication (EC, 2020e)

According to the Eurostat statistic database, cultural employment in EU-27 recorded an upward trend in the analysed period. In Croatia, the average share of cultural employment in total employment through the observed period (2014 to 2018) was on the level of 3.4%. In the year 2018 there were approximately 54,200 (3.4%) employees engaged in the cultural sector. There were approximately 7.3 million people employed in a cultural activity or a cultural

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[5] NACE is derived from the French title "Nomenclature générale des Activités économiques dans les Communautés Européennes" (Statistical classification of economic activities in the European Communities).

[6] The International standard classification of occupations, abbreviated as ISCO, is an international classification under the responsibility of the International Labour Organization (ILO) for organising jobs into a clearly defined set of groups according to the tasks and duties undertaken in the job.

occupation in EU-27 in 2018, that is 3.7% of the total employment in the EU but the share of this specific category is varying in dependence of the country. For example, Estonia as one of the fastest growing economies has an above average share of employees in culture of 5.6%.

As well, it is significant to point out that out of all active enterprises in all industry sectors in Croatia, the small and medium-sized companies (SME's) (including micro-sized enterprises) "are generating more than half of the value added (61.3%) of non-financial business economy" (DZS, 2018, 1), therefore their significance for national economy is high. Unfortunately, the number of enterprises in the CCS in Croatia, according to Eurostat, was decreasing. For that reason, in the following chapter, the authors analysed the trends regarding the total government expenditure on culture and creative industries with the purpose to determine whether the policy makers recognized the importance of CCS.

4.3. Public expenditure on culture

Public cultural facilities (e.g. cinema, theatre, museum, library, gallery, cultural institution), "cultural products, cultural activities and other related cultural services are very important deliveries for government to meet the public's basic cultural needs" (Tu et al., 2017, 709-710). Even though expenditure on culture can come from different sources, most funding in culture comes from public funds.

The Ministry of Culture of the Republic of Croatia regularly finances different programmes within programme activities according to its five cultural fields; Investments, Cultural Heritage, International Cultural Cooperation, Archive, Library and Museum System, and Artistic Creativity in CCS. Since one of the main objectives and missions of the Ministry of Culture is to support international cultural cooperation and promote and develop direct and continuous cooperation and exchange between organisations in culture, the Ministry of Culture strives to financially support the participation of cultural professionals and other artists in many different multilateral programmes promoting the own culture, development of intercultural dialogue and cultural diversity" (Psychogiopoulou, 2015).

This facilitates a broader presentation of Croatian culture in other countries, as well as the presentation of the culture and vice versa through the translation and publication of literary works, presentation of films and art exhibitions, guest performances, dance and music performances, and participations in book fairs and other international cultural events and conferences. For the purpose of the analysis of the recognition of the importance of CCS for the economy by the government, the results of the trend analysis of the total general government expenditure on culture in Croatia 2014 - 2018 is shown in the table below (including exclusively cultural services according to the COFOG) with the emphasis on the International Cooperation shown by the table 4 and 5.

Table 4: Total general government expenditure on culture of the total state budget in Croatia 2014-2018 and the budget of the Ministry of Culture 2014-2018

	2014	**2015**	**2016**	**2017**	**2018**
Total general expenditure on culture – cultural services (% of the total state budget)	1.6	1.4	1.3	1.4	1.5
Budget of the Ministry of Culture (000 HRK)	770,808	867,963	923,946	1,131,631	1,209,592
Annual increase in %	-	12%	6%	22%	7%

	2014	**2015**	**2016**	**2017**	**2018**
Increase in comparison to base year (2014) in %	-	12%	20%	47%	57%

Source: Authors' work according to Eurostat (EC, 2020d) and the Ministry of culture of the Republic of Croatia (2014-2018a)

The table above shows that expenditure on culture in Croatia on average accounted for 1.4% of the total state budget in the five-year period. In comparison, the EU-27 average is 1,0%. (EC, 2020d). But, there are rare positive examples such as funding culture of Latvia and Iceland that is above the EU average: 2.9% and 2.6%, respectively. The budget of the Ministry of Culture increased continually 2014 - 2018 for 57%.

In comparison with the above presented categories, the annual expenditures of the Ministry of Culture on International Cultural Cooperation are about 15% of all programmes. The Ministry finances programmes in two programme activities, International Cultural Cooperation and Creative Europe programmes. Structure of financing of the programme International Cultural Cooperation 2014 - 2018 is presented in the following table.

Table 5: Financing of the programme activity International Cultural Cooperation 2014 - 2018

Programme activity International Cultural Cooperation	**2014**	**2015**	**2016***	**2017**	**2018**
Approved funds (000 HRK)	6,992	6,368	6,735	7,869	10,236**
Number of approved programmes	517	515	575	666	814

* Data are only available for the period ending 7 September 2016, whereas data for other years are available for the period ending 31 December.
** There is a mismatch in the different official reports: The Annual Report and the Approved Projects report
Source: Authors' work according to the Ministry of Culture (2014-2018b, 2020a)

The table above shows that the number of approved programmes and the amounts of approved funds significantly increased in the five-year period. It may be concluded that the funding for the programme activity International Cultural Cooperation is gradually increasing. This programme finances activities in sub-programmes Archives, Music Performances, Interdisciplinary Projects, Performance Arts, Theatre and Dancing Performances, Literature, Libraries, Cultural Heritage, Cultural and Artistic Amateurism, International Events and Conferences, Museums and Galleries, New Media, Residences and Visual Arts and other. Most of the funds, around 40% of annual approved programmes, are allocated to the sub-programme activity Performance Arts.

In addition to programme activity International Cultural Cooperation, the Ministry of Culture finances the programme activity Creative Europe programmes, providing Croatian institutions that have already obtained funds for their projects from the Creative Europe programme with additional funding. Creative Europe is one of the EU's programmes aimed at reinforcing European CCS and protecting, developing and promoting European cultural diversity, among other things. Creative Europe programme provides financial supports to small and medium-sized enterprises (SME), micro-companies and organizations in CCS.

Programme activity International Cultural Cooperation results by Ministry of Culture (2019, 2020b) reveal an increase in the number of approved programmes and an increase in the amount of approved funds by 14%, as shown in the table below.

Table 6: Financing of programme activity Creative Europe programme – Sub-programme Culture 2018-2019

	2018	**2019**
Approved funds (000 HRK)	1,490	1,700
Number of approved programmes	58	63

Source: Authors' work according to Ministry of Culture of Republic of the Croatia (2019, 2020b)

The Ministry's report also states that the number of programmes approved in 2018 has doubled in comparison with 2017, which also confirms the upward trend in the number of approved programmes in recent years, and the fact that the Ministry of Culture has recognised the importance of promoting international cultural cooperation, which contributes to CCS development in Croatia.

5. Discussion

Even though CCS enterprises play an important role in the majority of European economies and have achieved continual value-added growth and growth of employment in past years, they also face major challenges. Competition has increased with the new social platforms, and CCS organisations have to use the advantages of digital technologies to facilitate the distribution of cultural and creative contents, and thus increase their competitiveness in the global market. By adapting to digitalisation, beneficiaries in CCS can showcase their work internationally by accepting cultural diversity through innovation and development of new business models. In this connection, according to KEA (2019b, 60), it's assumed that in the near future (in the next 10 years) the European "CCS is likely to continue acting as a significant driver of territorial attractiveness" and "remain strongly competitive". Also, "for the CCS will be created new incentives in the form of tax reductions, direct financial support or creation of new jobs in the sector. This support from the EU will foster the development of the CCS" KEA (2019b, 61).

The analysed information about the cultural entrepreneurship showed that the cultural enterprises accounted for 6,589 or 4.45% of the number of total active enterprises (while on the level of the EU-27 it is 5%). As well, the value added at cost factor of cultural enterprises in Croatia was EUR 546 million, equivalent to 2.48 %[7] (DZS, 2018). Although, according to DZS (2018) there was a growing trend in the number and results of SME's it seems that the cultural sector did not fully follow those positive trends. This was confirmed by the downfall of the number of cultural enterprises and the employment in CCS in comparison to the total employment on the national level.

According to Sava et al. (2017, 83), in some European countries the employment in CCS "depends on how rich is a country's economy and this also impacts the fluctuation of the cultural employment".

Nevertheless, the CCS are still playing a significant role measured by the value added.

Here it was found that a smaller number of cultural enterprises in 2016 compared to 2015 generated a higher value added although its contribution to the value added of the total

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[7] Generally, value added at cost factor is the gross income from operating activities after adjusting for operating subsidies and indirect taxes. It can be calculated as the total sum of items to be added (+) or subtracted (-): turnover (+); capitalised production (+); other operating income (+); increases (+) or decreases (-) of stocks; purchases of goods and services (-); other taxes on products which are linked to turnover but not deductible (-); duties and taxes linked to production (-). Alternatively, it can be calculated from the gross operating surplus by adding personnel costs (EC, 2019b, 101).

national economy is not significant. Nevertheless, it can be seen that there is a growing trend in state financing of cultural projects including international project cooperation financing that confirms that policy makers are recognizing the CCS as an important factor.

According to IRMO (2014), "among sectors identified as important for the promotion of access to culture and participation the following sectors have been identified - education, tourism, minorities, media and information society, regional development, urban planning and the protection of environment" IRMO (2014, 179). The New Agenda, backed with appropriate funding will exploit synergies between culture and education and strengthen links between culture and other policy areas. It will also help CCS overcome the challenges and grasp the opportunities of the digital shift (EC, 2018b, 3). As Bakhshi (2019) stated there is need of years of research directed towards policy agendas and impact of the CCS to achieve the result that is measurable by quality and structure of the measures for supporting the CCS.

Billi et al. (2019) claim that there are three basic activities through which the policy makers (the System) could use to increase the development of cultural innovation initiatives which is broader than financial support measures (Billi et al., 2019, 37):

"(1) the social impact investments/finance can be a concrete incentive for cultural innovation projects because it puts the focus on the social impact of investments in addition to the focus on financial sustainability"

"(2) the potential of development of projects tied to the Manufacture 4.0 and to digital handicraft, the radical transformation of production systems through the merging of technologies and new customization opportunities" through development of co-working innovation centres (according to the model of FabLabs in Italy)

"(3) The policies for Urban regeneration and revitalization of the outskirts can play a fundamental role in promoting bottom-up initiatives" (utilization of unused public and private heritage) (Billi et al., 2019, 37).

Farinha (2018) gives further recommendations to "establish more business-friendly regulations and incentives for CCIs business creation and development, including investments from abroad. The tax system should be simplified, to allow easy start up – especially regarding reduced obligations for entrepreneurs in ramp up years with reduced obligations for entrepreneurs" (Farinha, 2018, 41). As well, there is possibility of introduction of different models of distribution of financial support where institutions and enterprises in CCS could be categorized by their success in achieving relevant criteria and strategic relevance of the project and activities for the community. (Bestvina et.al., 2016) Klamer et. al. (2020) are confirming that statements but, they are finding the challenge in generating more active widespread private and corporate support in financing the CCS. All those measures could be a part of a package of measures for support CSS in Croatia.

6. Conclusion

This research is focused on a broader understanding of the key topics within the CCS in Croatia and the recognition of the international cultural cooperation by the state. Analyzing CCS in Croatia through cultural employment, cultural enterprises and public expenditure on culture in Croatia the authors noticed that the number of cultural enterprises and also the employment in companies practising an activity in the culture show a negative trend in the period 2014-2016. International cultural cooperation, generally, includes an exchange of experiences, know-how, skills, information and similar cultural activities with partners outside of national borders. The mobility of cultural subjects and artists and sharing of cultural productions and works of art with partners from other countries expands new ideas, creates new ways of communication and encourages innovation. The analysis of data in this paper has shown that the Croatian Ministry of Culture continually increases the funding of

culture and funding for international cultural cooperation programmes. In addition to financing international cultural cooperations between Croatian organisations in CCS and the rest of the world, the Ministry of Culture offers the Croatian programme of support of applicants for the EU funds– Creative Europe Programmes. Therefore, Croatian organisations active in CCS are having the opportunity of funding the creation, co-production and distribution of cultural and creative products and services with other European countries, to make them available to a broader audience. As of the value and the number of budget funded projects in the analysed period show a growing trend, the basic research statement about the importance of the CCS and their recognition by the policy makers was confirmed.

Next step of the CCS support is the development of measures and a regulatory frame that would be constituent parts of the development model. Here, the best model for cultural-based development in Croatia would be creating a clear cultural framework policy and cross-collaboration between the government, organizations in CCS and other interrelated sectors of the economy as suggested in the frame of this paper.

Research limitations: There are several limitations to the authors' research to consider. The primary limitation is differences in methodology where in some reports culture is observed with recreation and religion. As the result of the Brexit there is, in some cases, different methodology used about the CCS contribution on the level of EU, where information on EU-27 were presented where possible. In those case the information about cultural services were analysed. As well, there is a lack of data through a longer period, which limits the possibility of conducting analysis of trends and more complex statistical analysis. In addition, the authors noticed different values of financial supports for same programmes in two official reports related to international cultural cooperation. Nevertheless, this did not have a substantial impact on the final interpretation and conclusions.

Recommendations for further research: future research should further analyse the level of recognition of the CCS by the policy makers (government) by conducting comprehensive desk research on the available data on government measures and their impact and comparison to other EU countries. As well, in-depth interviews with policy makers and actors in CCS could reveal the reasons for the decrease in employment and number of enterprises in the CCS in Croatia.

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COLLECTION OF TESTAMENTARY NOTES AS AN INDICATOR OF THE ECONOMIC SITUATION OF THE INHABITANTS OF THE CITY OF OSIJEK IN THE PERIOD THE SECOND HALF OF THE 19TH CENTURY

ABSTRACT

Private legal documents are one of the most relevant sources for exploring the various aspects of the social life of their drafters, but also of those in whose favour those documents had been drafted. Due to the lack of preservation of archival material created in the 19th century, exploration of the economic circumstances of individuals as well as the social community is sometimes difficult, and documents that can serve as authoritative sources are very rare. For this reason, and due to the lack of other records to serve for this purpose, testamentary records kept within the archives of the Royal Judicial Table in Osijek from 1851 to 1899 are of invaluable value in determining the economic status of the testator and their disposition in case of death in terms of valuable property rights and facilities. The legal-historical analysis of the contents of the wills in the relevant period and the comparison of the established results in this research will seek to determine the formal and legal characteristics of individual records, as well as the content characteristics that indicate the economic structure of the testator, the inhabitants of the city of Osijek in the observed period. Particular attention will be paid to the content of testamentary records, which, for their religious or charitable purpose, testify to the economic needs of citizens, but also to the economic development that characterized the social reality of that time.

Key words: *private legal documents, Royal Court of Justice in Osijek, testamentary records, records, economic development.*

1. Introductory notes

Testamentary material, as one of the most relevant sources for the study of social, economic and legal issues, is a very exhaustive object of much research within European historiography. In this respect, the interest of the authors who dealt with these sources in great detail is often limited to the study of demographics, culture, mentality, religiosity and medieval social circumstances, while the interest in the legal content and importance of testamentary records, both medieval and modern times, remains out of the realm of research by relevant authors. When it comes to the Croatian Middle Ages, one must note the considerable enthusiasm of the authors who, through the analysis of testamentary records, sought to identify the social

circumstances of the period to which they referred more closely, or the reasons why the testator composed them. The scientific contribution of these authors and their publications to the discussions on this topic is, without further ado, immense. [1] However, it is useful to note that there has often been a lack of interest in the legacy research into the legal aspect of their creation, as well as in the form and the applicable law for determining the validity of their contents. Where there is interest, it is mostly geographically limited surveys of testamentary records on the Croatian coast, i.e. coastal cities and islands, or religious motifs that are substantially restricted to research, and which prompted the testator to draw up documents. An attempt to find similar discussions on testamentary records in the Slavonia area, more precisely the city of Osijek, has remained unsuccessful. For this reason, further research will seek to determine the contents of testator's wills from the territory of the City of Osijek during the second half of the 19th century, since archival material from earlier periods of the city's history has not been preserved. However, it will be possible to determine the circumstances of the early 19th century through the records of the Osijek city administration, the competent body for storing and preserving testamentary records. Since the emphasis of this research is primarily on the economic circumstances of the urban population during the period under review, particular attention will be paid to the analysis of those testamentary records, which, apart from regular cases of disposition of death, contained legacies for the benefit of public or religious institutions of the city. They undoubtedly contribute to the understanding of the economic situation of the testator, as well as the economic needs of the urban environment, which they use for both private and public purposes.

2. Applicable law for the contents of the wills in the reference period

The characteristics of the wills that were analysed in the content of this research did not indicate significant deviations, despite the different legal regimes in force in the Slavonia region from the beginning to the end of the 19th century. Until the Austrian General Civil Code (hereinafter ABGB) [2] came into force in 1853, the relevant sources for the contents of testamentary

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[1] Ladić, Z., (2005), O razlozima sastavljanja kasnosrednjovjekovnih dalmatinskih oporuka, [*On the Reasons for Composing Late Medieval Dalmatian Wills*], in: Raukar's Proceedings: Proceedings in Honor of Tomislav Raukar, Budak, Neven, editor (ur.), Zagreb, Zagreb: Faculty of Philosophy, University of Zagreb / Department of History - FF-press, p. 607-623., Ladić, Z. (2004), Kasnosrednjovjekovne oporuke kao izvor za proučavanje pobožnosti i socijalne strukture u Dalmaciji. Usporedba s urbanim društvima u drugim mediteranskim regijama, Hrvatska i Europa, [*Late Medieval wills as a source for the study of piety and social structure in Dalmatia. Comparison with urban societies in other Mediterranean regions, Croatia and Europe*]. Integrations in history. Second Congress of Croatian Historians Zagreb., FF Press, 2004., Ladić, Z. (2003), Legati kasnosrednjovjekovnih dalmatinskih oporučitelja kao izvor za proučavanje nekih oblika svakodnevnog života i materijalne kulture, [*Legacies of Late Medieval Dalmatian Testators as a Source for the Study of Some Forms of Everyday Life and Material Culture*], in: Proceedings of the Department of Historical Research of the Institute for Historical and Social Research of Croatian Academy of Sciences and Arts, Vol 21., Ladić, Z. (2001), Oporučni legati "pro anima" i "ad pias causas" dubrovačkih stanovnika krajem XIII. Stoljeća, [*Legacies of the "pro anima" and "ad pias causas" of the Dubrovnik inhabitants at the end of 13th Century*], in: 1000 Years of the Diocese of Dubrovnik. Proceedings of the Scientific Conference on the Thousand Years of the Establishment of the (Super) Diocese of Metropolia (998-1998) Dubrovnik, Episcopal Office Dubrovnik – A Church in the World Split p. 733-751., Ravančić, G., (2011). Oporuke, oporučitelji i primatelji oporučnih legata u Dubrovniku s kraja trinaestoga i u prvoj polovici četrnaestoga stoljeće, [*Wills, testators and recipients of testamentary legacies in Dubrovnik from the end of the thirteenth and in the first half of the fourteenth century*] in: Historical Contributions, Vol. 30 No. 40., Petrak, M., (2015) Rimsko-bizantsko pravo i intestatno nasljeđivanje pro anima u Splitskom statute, [*Roman-Byzantine Law and Intestate Inheritance of the Prosecutor in the Split Statute*], in: Split Statute of 1312: History and Law, Literary Circle, Split, p. 255-271.

[2] A general civil code called Allgemeines Bürgerliches Gesetzbuch was proclaimed an imperial patent in 1811 in the Austrian hereditary lands of the Habsburg Monarchy. It was modeled after the Pandect Law, canonical, feudal and German customary law. From May 1, 1853, on the basis of the imperial patent, from November 29, 1852, it

documents were contained mainly in customary law, sometimes in city statutes, and to some extent governed by the provisions of tripartite law contained in the Werbőczy's Tripartite Collection of 1514.[3] The will was recognized as an expression of the last will of the decedent and used by a legal institute in the territory of Slavonia even before Tripartite came into force. This is evidenced by the legal provisions of the Ilok Statute. According to the provisions of this source, it is permissible to dispose of real estate and movable property irrespective of the manner in which they are acquired. A woman is allowed a testamentary disposition of the property acquired under her dowry.[4] The noteworthy provision primarily concerned the obligation to settle creditors before the heirs of a will, which in its content proves that early Slavonic wills often contained provisions on dispositions for the benefit of the church, hospital or the poor. Although the Ilok Statute does not call them legacies, as is the case in some earlier sources of medieval law, primarily the statutes of the Dalmatian communes, there is no doubt that this provision indirectly indicates the possibility of such disposition.[5] The following will outline the inheritance provisions of tripartite law to the extent that it is possible to analyse the legal framework of testamentary documents deposited in the State Archives in Osijek. Also, in relation to individual succession law institutes that are primarily regulated by tripartite law, an attempt will be made to provide the legal framework created after the entry into force of the ABGB.

In tripartite law, as well as in Roman and canonical, the will is statement of the last will of the testator by which he transfers all or part of his property to one or more persons. [6] Each will could be amended or revoked, which makes it different from the succession agreement where such unilateral disposition was not possible. The provisions of tripartite law determine the presumptions of validity and several manifest forms of wills. In terms of validity, the assumptions were divided into external and internal. The external presumption governed the testator's legal capacity to dispose of his estate in in case of death, as well as to enable legal

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began to be valid throughout its territory, that is, in the territory of the Kingdom of Hungary, Croatia and Slavonia. Stein, Peter, Rimsko pravo i Europa - Povijest jedne pravne kulture, [*Roman Law and Europe - A History of a Legal Culture*], Golden Marketing - Technical Book, Zagreb 2007, p. 126 . Vukovic, Mihajlo, Opći građanski zakonik- s novelama i ostalim naknadnim propisima, [*General Civil Code - Novels and Other Subsequent Regulations*], Školska knjiga, Zagreb, 1955, p. V-VII. For more on the code-passing process, see more: Van den Berg, Peter A.J., The Politics of European Codification, Europe Law Publishing, Groningen-Amsterdam, 2007, p. 85-119, Beuc, Ivan, Povijest država i prava na području SFRJ, [History of States and Rights in the SFRY], Official Gazette, Zagreb, 1989, p. 19 and 208.

[3] Prior to the entry into force of ABGB in Croatia, there was no single system of legal rules governing inheritance law. Cases of regulation of certain succession institutes are extremely rare. In Hungary, as in Slavonia, there was no reception of Roman law to the extent that it was the case in Germany and France, however, when it came to wills, it was still possible to conclude on the reception of Roman rules. Tripartite (full Latin title: *Opus tripartitum iuris consuetudinarii inclyti Regni Hungarie partiumque eidem annexarum*: Tripartite common law of the glorious Kingdom of Hungary and its associated territories), legal proceedings dating to the mid-19th century was the fundamental source of civil law in the lands of the Crown of Sts. Stjepan (Hungary, Slavonia, Croatia, etc.). Rady, M. (2015), Customary Law in Hungary - Courts, Texts, and the Tripartitum, Oxford, Oxford Scholarship Online, p. 27-28. For the purposes of this research, tripartite law is analyzed through the following source, Lanović, Mihajlo, Privatno pravo Tripartita, [*Tripartite Private Law*], Zagreb, 1929. More about passing laws: Čepulo, D., (2012) Hrvatska pravna povijest u europskom kontekstu – od srednjeg vijeka do suvremenog doba, [Croatian Legal History in the European Context - From the Middle Ages to the Modern Age], Faculty of Law, University of Zagreb, Zagreb, 88-90.

[4] The Statue of Ilok, Book, IV, chapter 1 and 4 The adulterous woman was forbidden to dispose of even the goods she had acquired under dowry.

[5] The Statue of Ilok (1970.), Book, IV, chapter 16. Statute of the City of Ilok from 1525, Vol 7., Excerpt for a yearbook of MH Vinovci,

[6] Putz, C., (1870,) System des ungarischen Privatrechtes, Verlag der G.J. Manz'schen Buchhandlung, Manz, p. 335., Jung, Von J., (1818) Darstellung des Ungarischen Privat-Rechtes. Nach dem Werke: institutiones juris privati Hungarici des Emerich von Kelemen, bearbeitet, Opseg 2, Bauer, Wien, p. 104-105.

capacity of the successor.[7] Certainly, the testator must have owned the property which he could dispose of in the event of death. Unlike Roman and Canon law, according to which the appointment of heirs (*heredis institutio*) is one of the essential prerequisites for the validity of wills, Croatian-Hungarian law excludes such a provision by standardizing the possibility of dividing the entire property into legatees.[8] This Roman institute disappeared long time ago as an essential part of the will in Slavonia.[9] It is this novelty that will be of particular importance to the content of the particular testamentary records that we deal with in the continuation of our research. External assumptions about the validity of wills are formalities that applied differently to particular forms of wills governed by the Tripartite Law.[10] The internal assumptions of the validity of the will relate to its contents, and by fulfilling them the heir acquired the opportunity to dispose of the property which is the object of the record.[11] Regarding the forms of wills in practical use in the territory of Osijek, it can be noted that the use of civil will (*testament civica*) and public will (*testament publica*), in the period prior to the entry into force of ABGB, was frequent. With the possibility of drafting the will in the usual way, the civil will had to be read before the testator and the witnesses (three witnesses)[12]. On the other hand, public wills were proposed directly to the city government and then signed by the city councillors or notary. There was a possibility of drafting a will before the envoys of the city government, who then reported on these wills and then kept them in the city archive.[13] This form of will is the most common form of expression of the last will of the citizens of Osijek in the period under review, and can be read from the contents of the City Records used as the source of pre-1853 wills.[14] After 1853, the usual form of testamentary records is a private will (*testamenta privata*), which, at the time, is the most common form of the last will of the testator in the city of Osijek. As there were no special testimonies of either nobles or surfs in the total of the testimonials available at the State Archives in Osijek, in the continuation of

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[7] The personal legal capacity of the testator (*activitas testandi personalis*) was excluded in the mentally ill, angry, insane, low-minded and those who forcibly forced, in fear, in error, and in those who, due to physical defects, could not properly express their will. Juvenile children and those who had been confiscated because of their offenses were also unable to dispose of the will. Lanović M., (1928), Privatno pravo Tripartita, The Private Law of the Tripartite, Zagreb, p. 302, Under Clause 1715: 27 § 1 of Tripartite

[8] Tripartitim 1715:27 § 4: „*Neque praeterea heredis institutio de substantia testamenti amodo etiam imposterum requiratur; verum testatori liberum esto institutionem heredis in testamentum inserere vel ommittere: cuius tamen insertio vel ommissio testamentum non vitiabit.*" See more about wills in the region of Slavonia in: Margetić, L. (1996) Hrvatsko srednjovjekovno obiteljsko i nasljedno pravo, Croatian medieval family and inheritance law, Zagreb, Official Gazette, p. 336.

[9] Margetić, L. (1996) Hrvatsko srednjovjekovno obiteljsko i nasljedno pravo, Croatian medieval family and inheritance law, Zagreb, Official Gazette, p. 336.

[10] The reprimands could be written or oral, public or private depending on whether they were made before public authorities or not, and given their affiliation, they were divided into noble, civil, surfs' or peasant and priestly wills. The wills made abroad were also different from those made in the country, as well as complete and incomplete wills. They could also be ceremonial and privileged.

[11] Jung, von J., (1818) Darstellung des Ungarischen Privat-Rechtes. Nach dem Werke: institutiones juris privati Hungarici des Emerich von Kelemen, bearbeitet, Opseg 2, Wien, Bauer, str. 107, 687.

[12] This format excludes the ability to make closed wills. Lanović M., (1928) Privatno pravo Tripartita, Tripartite Private Law, Zagreb, p. 302, Under Clause 1715: 27 § 7 of Tripartite.

[13] Lanović M., (1928), Privatno pravo Tripartita, [*The Private Law of the Tripartite*], Zagreb, p. 302, Under Clause 1715: 27 § 7 of Tripartite. For a more detailed explanation of the provisions of Hungarian succession law contained in the provisions of the Tripartite, see: Jung, Von J., (1818) Darstellung des Ungarischen Privat-Rechtes. Nach dem Werke: institutiones juris privati Hungarici des Emerich von Kelemen, bearbeitet, Volume 2, Wien, Bauer, p. 160-107., Putz, C., (1870,) System des ungarischen Privatrechtes, Manz, Manz, Verlag der G.J. Manz'schen Buchhandlung, p. 339.

[14] Record no. 249, 29 IX. 1794, in which the testator Mishko Andrakovich seeks to settle the debts incurred on the property he inherited from his late wife, so that their son in law Andro Ivkovich would not have to worry afterwards. Sršan, S. (2000) Zapisnici općine Osijek, [*Minutes of the Municipality of Osijek*]= Prothocollum des Stadt-Raths zu Esseg: from 1794 to 1809., State Archives of Osijek, Osijek, p. 33.

this work the focus is on the handwritten testimonials *(testamentum holographum)* of regular citizens which, in terms of validity, had to be written and signed by the testator, and the oral testimony which had to be stated before two legally capable witnesses in order to have irrefutable legal force *(testamentum privilegiatum nuncupativum)*.[15]After the ABGB came into force, the legal form of testamentary records remained almost unchanged. The changes should primarily be seen in the jurisdiction of the authorities before which the testator could make the last will statements. Thus, the ABGB recognizes both written and oral wills.[16] Written testimonials and *testamentum allographum*. Of verbal, judicial or extrajudicial will.[17] In addition to wills, Croatian-Hungarian law also recognizes two other forms of disposition in the event of death, codicils and legacies. The codicil also appears as a form of expressing the last will of the testator and, under Hungarian law, was considered solely to supplement the will, that is, to specify the will by which the content of the will was supplemented or amended[18] The validity of the codicil according to the provisions of Hungarian law required the presence of three witnesses with the same qualities that were also required from the witnesses of the will.[19] In the case of illiteracy of the testator, legal validity of the codicil was conditioned by the presence of four witnesses.[20] It is important to emphasize that the codicil could, by no means, be a form of disposing of all the property of the testator, since it would then be a new will, but only a part of it. Although codicil is a very rare form of expressing the will of the testator, two cases of such practice have been recorded, the first of which relates to the end of the 18th century, and the second is an integral part of the wills collection, written in 1852. In the first codicil, the ABGB defined the codicil in the same way as Hungarian law. The commentary of the law already states that the legal definition of codicil was taken over from Roman law after the ABGB came into force.[21] As it is already clear from the research summary that the analysis of testamentary documents, which we deal with in detail below, will largely focus on the content of testamentary legacies, it remains to determine the legal framework that normalized the validity and content of this type of testamentary record. Testamentary records, legacies are a frequently used institute in testator's wills in medieval Croatian coastal cities. The development of testamentary legacies, as Ravančić points out, began during the social and economic development around the 13th century, and the form of the record rested mostly on the provisions of the Roman, Byzantine, Lombard and Slavic traditions.[22] It is interesting to

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[15] 1723: 41, 1729: 26 of the Tripartite. With regard to the formalities that were particularly relevant to the validity of the will, it should be noted that heirs or legatees should not have witnessed the will. Putz, C., (1870,) System des ungarischen Privatrechtes, Manz, p. 338., Kaser, M., (1975) Das römische Privatrecht, Zweiter abschnitt. Die Nachklassischen Entwicklungen, C.H. Beck'sche Verlagsbuchhanlungen, Munich, , § 286, p. 495

[16] According to § 578 of the ABGB, the person's written will had to be written and signed by the decedent in his hand, indicating the date and place of making the will. According to § 579, a will written before another person had to be signed manually by the decedent in the presence of three witnesses who had to indicate their signature both inside and outside the will. If the decedent was illiterate at the point of signature, he had to put a sign of his hand.

[17] The decedent had to make an out-of-court oral testimony in the presence of three witnesses, and the court one, regardless of whether it was pronounced or not, orally or in writing. The oral was handed over to the court for the record, while the writtn one had to be submitted to the court for safekeeping after having been written and signed by the testator. §585 and 587 of ABGB.

[18] In Roman law, codicil was a small letter attached to a will drawn up in an informal manner in a pleading tone with messages or pleadings to the heir or legatee not contained in the will. Romac, A. (1994), Rimsko pravo [*Roman Law]*, v. Ed., Narodne novine, Zagreb, § 395.

[19] Under provision 1715: 27, §26 of the Tipartite. More details on the justification of the provision: Putz, C., (1870,) System des ungarischen Privatrechtes, Manz, Wien, p. 338.

[20] Putz, C., (1870,) System des ungarischen Privatrechtes, Manz, Wien, p. 342.

[21] Vuković, M., (1955) Opći građanski zakonik- s novelama i ostalim naknadnim propisima, [*General Civil Code - Novels and Other Subsequent Regulations*], Školska knjiga, Zagreb, p. 147.

[22] Ravančić, G., (2011) . Oporuke, oporučitelji i primatelji oporučnih legata u Dubrovniku s kraja trinaestoga i u prvoj polovici četrnaestoga stoljeće, [*Wills, testators and recipients of testamentary legacies in Dubrovnik from*

note that the analysis of testamentary legacies during the Middle Ages boils down to two manifestations of these records, *pro anima* and *ad pias causas*. [23] The content, as well as the form, is often normalized by the provisions of the city statutory law.[24] Regarding what came to be the subject of inheritance in the form of legacies, Ladić notes that since the second half of the 13th century, the testamentary disposition of the Dalmatian testator contained significantly more varied legacies than in the previous period when it consisted exclusively of land or money.[25] This change, Ladić believes, is a consequence of democratization in writing wills, which resulted in frequent testamentary dispositions in Dalmatian communes. In the continuation of the research, an attempt will be made to compare the legacies contained in the wills of the Osijek testators. Although the legacies are repeatedly mentioned in the provisions of the Tripartite Law, they were not addressed under any separate provision of that legal source. In Roman and so in medieval law, a legacy is a formal unilateral statement by a testator in which he is ordering the heir to transfer a right or an item from the value of the inherited property to the third party (legatee) from the property acquired by inheritance.[26] The legatee could not get into possession of the inherited item until it was handed over to him.[27] According to the contents of the source, the legacy could refer to the whole of the testator's disposition, to only one part of his disposition or to the legacy of a particular legatee. As the Tripartite Law does not regulate in more detail the issue of legacies, the elaboration of the provisions of the Austrian General Civil Code relating to the same issue will be used in continuation to clarify this legal institute. The testamentary institution is very precisely regulated by the provisions of the ABGB. According to § 647 of the ABGB, a legacy or testamentary record was only valid if left by the testator who was able to leave a testament to a person capable of inheritance.

the end of the thirteenth and in the first half of the fourteenth century], in: Historical Contributions, Vol. 30 No. 40, p.

[23] Ladić, Z. (1999.) Oporučni legati "pro anima" i "ad pias causas" dubrovačkih stanovnika krajem XIII. Stoljeća, [*Legacies of the "pro anima" and "ad pias causas" of the Dubrovnik inhabitants at the end of 13th Century*] in: Proceedings of the Department of Historical Research of the Institute of Historical and Social Research of Croatian Academy of Sciences and Arts, Vol. 17, p. 18.

[24] Statute of Split, Book III, cap. 26, Recording of wills from the middle of the 13th century was performed by the officials of the communal administration, public notaries who otherwise recorded the documents on the conclusion of a legal act. The wills were printed according to standardized forms. Andrić, T. Socijalna osjetljivost obrtničkog sloja u Splitu sredinom 15. stoljeća , [Social Sensitivity of the Craft Class in Split in the Mid-15th Century], Historijski zbornik, Vol. 66 No. 1, 2013. https://bib.irb.hr/datoteka/686661.HZ_1-2013-AndricT.pdf, 02/20/2020. *Statute of the City of Split. Medieval Law of Split*, 2nd Refined edition (edited by Antun Cvitanić), Književni krug, Split 1997, Vol. II, ch. 59, Vol. III, ch. 18-37, 95; vol. IV, ch. 72, 87, 102, 123, Vol. NS, ch. 14, 25, R. 51, 81, 109. In addition, city authorities went so far in regulating testamentary legacies that they even regulated inheritance relationships. – Ibid. book. III, ch. 24, 35, 36, 44, p. 490-492, 498-500, 504-510. For more on the regulation of hereditary law in the provisions of the Split Statute, see: Antun Cvitanić (2002), Iz dalmatinske pravne povijesti *[From Dalmatian Legal History]*, Književni krug, Split, p. 189-199. Likewise, in the provisions of the statute of the city of Trogir, the legacy denotes property left per universitatem ii per singulas res to the church or for pious purposes. The statute of limitation for the payment of the legacy would come into force after ten years. *The Stautue of the City of Trogir* (1988), (edited by Rismondo, V), Književni krug, Split., Book of reformations, II, Ch. 15., see more about the will in the Trogir Statute in the Index of terms, p. 357.

[25] Clothing and fabrics, food and natural products, liturgical objects, paintings and books are the subject of testamentary records in the analyzed wills of Dalmatian communes. Ladić, Z. (2003) Legati kasnosrednjovjekovnih dalmatinskih oporučitelja kao izvor za proučavanje nekih oblika svakodnevnog života i materijalne kulture, [*Legacies of Late Medieval Dalmatian Testators as a Source for the Study of Some Forms of Everyday Life and Material Culture*], Proceedings of the Department of Historical Research of the Institute of Historical and Social Research of Croatian Academy of Sciences and Arts, Vol. 21, p. 26 -27.

[26] Romac, A. (1994) Rimsko pravo, [*Roman Law*], v. Ed., Narodne novine, Zagreb, p. 391. For more on the Hungarian law legacy that was valid in the Slavonia area, see the extensive account of Rechtborn, M., F., (1858) Das alte und neue Privatrecht in Ungarn, Siebenbürgen, Slavonien, Serbien und dem temescher Banat, bezüglich seiner Fortdauer und Rückwirkung, Steinhaussen, Steinhaussen, Hermannstadt, p. 141-143.

[27] The meaning of the provision is to be found in the provisions of Roman law which prevented the legatee from retrieving things until the debts of the legacy were settled.

Accordingly, the legacy is the burden of the heirs in proportion to the size of their hereditary part.[28] Legacies could be items, rights, but also certain actions and practices that had value. In case there were more items of a certain kind in the legacy that were not closely specified, it was on the successor to make the choice of items to be handed over to the legatee. On the contrary, if there were no items in the legacy that were the object of the testator's record, the record would lose its value, i.e. the heir was not obliged to provide it. The same was true in the case where the legatee acquired an item at some point before the testator's death.[29]

3. Content analysis of wills

Analysis of testamentary documents stored in the State Archives in Osijek, which will be accessed below will aim to be achieved in two different parts. The first part will analyse the testimonials stored in the State Archives in Osijek in the town records of the initially united Osijek municipalities, and then the Osijek municipalities, and finally, the analysis of the preserved testimony documents contained in the State Archives in Osijek contained in several books of wills. While the records of city municipalities, that is, later Osijek municipalities, were largely written in German cursive Gothic, their analysis was significantly simplified through published writings compiled by Stjepan Sršan for particular periods of history (1786-1794, 1794-1809).[30] The Osijek State Archives contains five books of wills relating to the period of the second half of the 19th century.[31] The boxes contain a plethora of wills that were largely written in German and, in terms of their contents, they did not generally bring anything special, since the testators left their property entirely to children, child or spouse and thus went beyond the scope of this research whose purpose was to determine the economic situation in the city at the end of the 19th century, but also the contributions of individual testators to the urban environment. For this reason, in this research there was included a detailed analysis of the contents of individual wills, which in their content referred to testamentary legacies of their authors for the benefit of the institutions in need or individuals in the city area. Although the research on this issue sought to cover the contents of the wills of the well-known citizens of Osijek from the mentioned period, unfortunately their wills were not found in a lot of archival material, i.e. books of wills related to that period. For this reason, we searched them within the inheritance items of the Royal Judicial Table in Osijek, but to no avail. Only the search of trust instruments, i.e. the documents on establishing of individual foundations in the city, indirectly referred to the wills whose legacies were the legal basis for their creation. To this end, foundations served as a significant source for determining the contents of wills, legacies, and thus economic opportunities in the city at the end of the 19th century.

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[28] See § 649-640 of ABGB in detail. ABGB is cited according to: Vukovic, M., (1955) , Opći građanski zakonik-s novelama i ostalim naknadnim propisima, [*General Civil Code with Novels and Related Subsequent Regulations*], Školska knjiga, Zagreb.

[29] §656-657 of ABGB

[30] Sršan, S. (1996.) Minutes of Osijek Municipality = Prothocollum des Stadt-Raths zu Esseg: from December 12, 1786 until 1794: for the 800th mention of Osijek, State Archives of Osijek, Osijek., Sršan, S. (2000) Minutes of Osijek Municipality = Prothocollum des Stadt-Raths zu Esseg: from 1794 until 1809, State Archives of Osijek, Osijek.

[31] Book of wills: HR-DAOS- 123. 6.5. a book 265, 1854- 1882, and a book 266, 1890- 1899, as well as the files of the Royal Judicial Table in Osijek containing testator's wills. HR-DAOS-123, box 523, wills IV, 43- 206, 1851-1875, HR-DAOS- 123, box 524., wills IV, 207-1015, HR-DAOS-123, box 525, 1080-1460, 1869-1876

4. Wills within the contents of the minutes of Osijek Municipality

The minutes of the Osijek municipality for the period 1786-1794 contain eleven wills and thirty-five legacy records. In almost all testamentary records, the testators disposed of for the benefit of their children, spouse or closest relatives with whom they most often lived in the same household. However, one record brings slightly different content.[32] Unlike the other testamentary records, the will on the basis of which such a record was made, although not preserved, certainly contained a legacy in favour of the testator's widow. Certainly, the purpose of the testator's record was to provide for the widow's economic insurance, who for some reason (the brevity of marriage or childbearing) was not his heir.

After the establishment of the free and royal city of Osijek, on August 28, 1809, the city administration also received first instance jurisdiction in its area. This first instance jurisdiction will be exercised by the city administration until 1848, when the separation of administrative and judicial affairs will have finally come.[33] After 1809, some hereditary legal cases of citizens are included in the special political and economic records of the city government. The minutes are written in Latin, and the contents of those relating to the wills can only be noticed on the notice that a testament has been received and that its contents will be determined after the death of the testator. In the period to which the minutes relate, no wills were retained that would indicate the economic circumstances of the citizens, since they generally did not contain a list of the property of the testator but only an indication that the entire property was left to a specific heir. In order to understand the content of the wills, and especially the legacies for the benefit of public institutions or individuals, which will be analysed below, it is useful to briefly explain the social circumstances in the city in the period to which we refer. In the mid-19th century, Osijek was a true cultural, religious and educational centre, not only of Slavonia, but also of the area from southern Bosnia all the way to Buda. Summarized data from the 1815, 1817, 1820, 1830, and 1840 censuses were used to write this review.[34] According to Osijek statistics and censuses, the male population was divided into the economically active part and children. Accordingly, economically active men were divided into these four groups: clerks, citizens and craftsmen, servants of nobles, resident tenants (*inquilini*), and domestic servants of ambiguous positions. City statistics from the first half of the 19th century show that the most important group of Osijek residents was "citizens and craftsmen", of which as much as 27% of adult men were in 1830. This section of the civilian population held economic power and greatly influenced the political power in the city.[35] Among the citizens of Osijek, the leading position

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[32] It is about the record no. 56, May 25, 1791. The minutes were drawn up before the City Magistrate in the presence of five witnesses. In the above case, it is probably the fulfillment of the will by which Thimotheus Vukovich, the heir of the late brother Simeon Vukovich, undertook to pay the amount of 2000 Fl. Anni, nee Baich, to the widow of her late brother.
The sum was to be paid every year until her marriage (from Georgyevsky Washar 791 to 793). After marriage, the amount had to be reduced to 120 Fl and paid until the amount of 2000 Fl had been paid. Sršan, S. (1996) Minutes of the Municipality of Osijek = Prothocollum des Stadt-Raths zu Esseg: from 2 December 1786 to 1794: for the 800th mention of the names of Osijek, Osijek., p. 195

[33] Sršan, S. (2009). Minutes of the City Administration decisions of the free and royal city of Osijek from 30 August to the last day of December 1809 in political and economic matters = Prothocollum determinationum magistratualium lib. et. civitatis Essekiensis a 30-augusti usque ultimam decembris anni 1809. in objectis politicis et oeconomicis, Osijek., Sršan, S. (2011). Minutes of political and economic decisions of the free and royal city of Osijek for the year 1810 and 1811 = Prothocollum determinationum politico-oeconomicarum lib. et. civitatis Essekiensis pro annis 1810 and 1811, Osijek.

[34] Osijek State Archives, City Administration Osijek (hereinafter: HR-DAOS-10, GPO), Acta politico-oeconomica, file. no. 134, 159, 340/1809.

[35] Ibid.

was held by traders, among which Orthodox and German traders stood out.[36] On the basis of the social composition of the population of the city of Osijek in the first half of the 19th century, it can be concluded that the city of Osijek was an important trade and fair city, where six weekly fairs were held.[37] The period from 1809 to 1849 in the development of the city of Osijek is most significant for its economic, urban and social development, because despite all the problems that shook the Monarchy in those years, Osijek was developing at the fastest pace in the entire post-Turkish period. After the revolutionary turmoil of 1848 and 1849, this situation changed significantly. Namely, with the imperial patent of March 4, 1849 there was issued for all crown lands, except the Military Frontier, an octrated state constitution that abolished the feudal system and regulated the foundations of governing the state. This constitution legitimized the new social order in the country, that is, through various administrative reforms the modern civil administration is started to be built within another and different system of economic and thus political relations. Osijek's geopolitical position had a dominant influence on the city's development, and until the mid-19th century Osijek was the largest economic centre in Slavonia and Croatia. At that time, Osijek was a large market, where the process of industrial development and the establishment of monetary institutions began. The city of Osijek was one of the largest and most economically developed cities in Slavonia and Croatia since the second half of the 19th century, as evidenced by the intense activity of the Chamber of Commerce and Crafts and the opening of significant industrial plants. These are all reasons that also influenced the social composition of the population of the city of Osijek. [38]

5. Collection of wills

The second part of the nineteenth century is a more fruitful period in the area of Osijek when it comes to testamentary inheritance, which can be deduced from a very rich collection of testamentary documents preserved in five separate boxes in the State Archives in Osijek. In this part of the research, the most prominent wills will be analysed with regard to the set object from the beginning of the research and the trust through which it was possible to reconstruct the contents of the wills of prominent citizens who contributed to the economic circumstances of the city. It is interesting to note that the wills analysed below have a dual purpose. On the one hand, they indicate the material status of the testator, and contain details of the inheritance and economic insurance of loved ones even after the testator's death, while on the other hand,

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[36] In the first half of the 19th century, the most populous group of adult men in Osijek were inquilini (resident tenants) and domestic servants of ambiguous position. The following data tell us this: in 1815, there were 60% in this group; 1817 - 69%, 1820 - 56%, 1830 - 69% and 1840 - 74% of working-age men. Based on these data, it appears that as many as 56-74% of the population in the City of Osijek were poor during the period. Part of that poor was earning a salary in the silk manufactory, transporting merchandise, in a brewery or in agriculture, and as servants in crafts. Bosendorfer, J. (1942): *Structura novae Domus Curialis. Construction of the New County House* 1834-1836, Proceedings of Osijek, No. 1, pp. 37-44;

[37] Bosendorfer, J. (1910): *Sketches from the Slavonian history*, Tiskom J. Pfeiffera Osijek, p. 589.

[38] Employed in the crafts and craft sectors, around 37 to 40%. Szabo, A. (1996): Socijalni sastav stanovništva *[The Social Composition of the Population]*, in Martinčić, J., ed.: Od turskog do suvremenog Osijeka *[From Turkish to Modern Osijek]*, Tiskara Meić, Zagreb, p. 160. It should also be noted that the established data of the employees in crafts to employees employed in the factories of Osijek at that time (for example, a glass factory, a match factory, etc.). The second largest group of citizens in Osijek are those employed in trade and monetary affairs (prominent merchants and entrepreneurs, their auxiliary workers, and clerks at Osijek money institutions). The fact that the city of Osijek had a developed economy, banking, etc., is supported by the fact that until the beginning of the 20th century, only more than 10% of the population were employed in agricultural affairs (owners of land and estates, tenants, family assistants, economic servants and farm workers). The number of employees in public services and the liberal professions was about 7.50% of the population, with about two dozen women employed. NRPŽ 1880, PSU VIII / 1882. - Some results of the census of 31 December 1880. Number of citizens, households and livestock. Publications of the Statistical Office of the Land Government of the Kingdom of Croatia, Slavonia and Dalmatia VIII / 1882, Zagreb, 1882.

they are valuable material for establishing the testator's piety as well as their social sensitivity. Not infrequently, wills are an integral part of a marriage contract, so it was necessary to pay attention to them, which is confirmed in two separate cases. The first case is just an example of a marriage contract and a will[39], while the second case is much more interesting from the point of view of this research. The case file[40] consisting of the marriage contract was subsequently added a will to which he had committed himself by the marriage contract, by which the testator departs from the disposition in case of death. This discrepancy is especially important given that the testator, who had no children in the marriage, decides to leave some of his property to the Serbian Orthodox Church. Despite efforts to ascertain the exact contents of this testamentary record, due to the dilapidation of paper and handwriting, it was unfortunately not possible. As the record lacks individualization of the real estate or currency, it is highly likely that this case was about disposition of movable property. Legacies of a religious nature to which the testator most often endowed the parishes or churches which they belonged to were often contained in wills made between 1850 and 1890, while later wills more often contained legacies of charitable content, which can be clearly read from the contents of the wills below. Religious legacies in the area of Osijek in the period under review are substantially different from the legacies that characterized the wills in the area of medieval coastal cities.[41] While the wills of the Middle Ages sought to express their feelings for death and the desire for eternal life in Paradise by stating the terms *pro remedio anime sue, ad pias causas* and *pro anima sua*, the testators of Osijek sought to show how exemplary believers they were by sharing, at the time of death, their property for the purpose of ensuring the functioning of the religious community. However, it must be emphasized that religious legacies are extremely rare in the period we are referring to, and the content of the wills of only wealthier citizens. For this reason, we are listing them almost completely below. The will of Mathias and Katarina Hegedušić is the most detailed account of the disposal of all property in the event of death, stating that the testator who later dies has the right to enjoy the property covered by the will for life. It was only after the death of the last testator that the assets could be distributed to the heirs. [42] Much more relevant to the content of this research is the testimonial record itself, which states in point 2 that the testators leave the parish church of the upper city of St. Peter and Paul the sum of 1000/6, and in point 3 the city hospital 30/6, and the chapel of St. Ana 20/6 of the value of the bequest, noting that the above amounts are to be paid after the decedent's death. Furthermore, the testator left the pre-legacy, worth 800/6 of the property, plus 300/6 in

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[39] It is a marriage contract made between Pavle Bire and Ana Blind, a widow with two male children from a previous marriage, concluded July 11, 1860. The contents of the contract state that in the event of death of the bridegroom, the bride and her children must inherit the property under house no 14 in Jošava, and the bridegroom'a daughter from his first marriage, must be paid the sum of twenty forints, since she received her hereditary part at the time of marriage. HR-DAOS-123, box 524. Collection of wills 201-2015, no. 279

[40] In the second marriage contract concluded on September 4, 1856, the bride Anna Gjurjevic contributed to the marriage community 2400 forints in silver and 1000 forints in cash and 800 fl from the obligatory relation. In the event of her death, the amount of 2400 fl will go to the bridegroom. The bridegroom Ivan Ljubliš brings a house and shop in the upper town and in the event of his death, his property will belong to the bride. In the continuation of this agreement, the parties state the modalities of inheritance if there are children in the marriage, as well as the method of division of common property acquired during the marriage. HR-DAOS-123, box 524, Collection of wills 201-2015. In the same file, without the designation of the case number, is the will of the testator, Ivan Ljublish, written on May 17, 1859.

[41] For reasons for compiling religious legacies in the area of the Adriatic communes, see: Ladic, Z. Oporuke i osjećaji *[Wills and feelings]*. The diversity of emotional expressions in the Eastern Mediterranean wills during the Middle Ages.
https://www.researchgate.net/publication/333432815_Oporuke_i_osjecaji_Raznolikost_emotivnih_izricaja_u_is tocnojadranskim_oporukama_razvijenog_i_kasnog_srednjeg_vijekaLast_wills_and_Emotions_Diversity_of_E motional_Expressions_in_Eastern_Adriatic_Last_W, 24.02.2020.

[42] The will was made on September 21, 1863. The heirs were named in detail as was the size of their hereditary part. HR-DAOS-123, box 524, Collection of wills 201-2015, no. 329

silver coins to Julia, Ferdinand, Hugia, Maria and Guslika Sehems - the children of the late Eva Sehems, formerly Mežnik. [43] Furthermore, the will of Eleonora Koller, nee Kolognat, also contained a testamentary record, a legacy for the benefit of several persons. [44] The contents of the will clearly identify charitable but also religious purpose of the gift. The testator left a note to the City of Osijek stating clearly that the City Government should treat the listed properties as a legacy. The subject of the legacy in this case is a house in the new part of the city (*Novi grad*) under house number 119, and the money obtained from its sale is to be used for a childcare facility. Furthermore, from the sale of houses in Kolhofer Street no. 93, 94, 95 and 96 the city had to pay 2000 forints for education of the four daughters of high school teacher Čičigoj, and 400 forints to Leo Vetter. The City Catholic Parish Church and the Franciscan Church were paid 100 forints, the church in the Cemetery of Osijek Tvrđa 200 forints, and the rest of the value was used to establish a trust fund for poor students of high school and girls' high school, for a care centre in new part of the city (*Novi grad*) and for the poor of Osijek. This will is unique in its content. The testator encompassed all three socially disadvantaged categories, which appeared as objects of legacy in Osijek wills from the observed period. The reason for such a disposition certainly lies in the more favourable economic circumstances of the testator compared to the testator below. Felix Ježević's testimony, written on October 6, 1893, contained two-point will. [45] As the sole heir to the entire estate of the deceased testator of the "Municipalities of the Free and Royal City of Osijek", the testator obliged the City of Osijek to fulfil the legacy according to which the city was obliged to establish a foundation for the founding of orphanage of 23 pieces of Austrian paper rent in the nominal value of 1000 forints. This legacy is of a charitable nature, and the testator recognized relatively early the need to establish a shelter for abandoned and careless children, which so far sought to be organized within other social welfare institutions. The will also includes a second legacy under which Johanna and Katharina Bohuš must be paid an annual rent of 100 forints while living or until married. This legacy is of a private nature, so it is of no particular importance to the content of this research. The legal heirs sought to challenge this will. This circumstance confirms the great value of this gift. In the end, a settlement was reached between the heirs of the testator and the city of Osijek, according to which the legacies of the will were left without changes. An integral part of the will of Josip Krausz, one of the members of the Josip Krausz Sons Company, is the legacy by which the testator obliges the City of Osijek to establish the "Joseph Krausz Foundation for Gifting the Poor of Christian Religion in the City of Osijek". [46] It was a principal of 6000 kronor or 3000 forint. [47] Likewise, Clara, the widow of Riffer, in her will dated March 25, 1869, wrote a legacy stating that the city of Osijek was bequeathed 1,000

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[43] *Praelagatum* is an institute defined in § 648 of the ABGB: "… in the event that a testator assigns a record to one or more heirs in respect of that record, they are considered to be the legatees." More about praelegatum in Ehrenzweig, A., (1924) System des oesterreichischen Allgemeinen Privatrechts, 2nd Band (6th Aufl. des von L. Pfaff aus dem Nachlasse des Josef Krainz herausgegeben Systems des oesterreichischen allgemeinen Privatrechts) Wien, § 517, III.

[44] The will is not in the collection of wills for the relevant period, but the contents of the will can be determined from the contents of the Decision of the Royal Judicial Table in Osijek of October 11, 1890. no 6977. to whom the court shall send a copy of the will to the City of Osijek. Sršan, S. (2007). Records of the City of Osijek for 1887-1895, State Archives of Osijek, Osijek, p. 319. The contents of the will are also contained in the trust instrument establishing the Eleonora Kollar trust fund. HR-DAOS-6, corner. 6412th

[45] Writing off of the High Royal Land Government of December 24, 1899 no. 79,722. Osijek City Representative Case, April 27, 1899, no. 80. Sršan, S. (2008), Records of the City of Osijek for 1896-1901, State Archive in Osijek, Osijek, p. 496-498.

[46] The will was drawn up on January 22, 1891 and written in German. The contents of the will are part of the trust instrument: HR-DAOS- 6, box. 6402, no. 1732.

[47] In detail, the principal consisted of six pieces of 4% of the Hungarian crown annuity from December 1, 1892, number 522.155, 522.156, 5222.157, 522.158, 522.159, 5222.160 per 1000 crowns for a total of 60000 crowns or 3000 forints. The trust fund was founded on December 24, 1894.

crowns, i.e. 2000 forints to establish a foundation for the poor of Osijek. The foundation was managed by the Osijek city administration in such a way that the choice of four needy poor people had to pay the interest from the said foundation for the rest of their lives. After their death, the government had to name other poor people. [48] However, not all foundations in the City of Osijek that were primarily focused on helping the poor were founded on testamentary legacies. An economic need that was clearly more comprehensive than the others cited in the content of the analysis of particular wills was also sought to be met by the constitution of foundations on behalf of certain prominent and deceased individuals. Thus, the Countess Marijana Normann, born Prandau, in memory of her father, deposited in the Osijek city treasurer 5,000 forints to establish a foundation named "The Foundation of Baron Gustav Prandau for the annual gift of the poor communes of the upper town of Osijek on May 23, on the day of his death." [49] Likewise, Leopold Blau handed over 500 forints to the city government to establish a scholarship foundation for one poor student born in Osijek, regardless religion, who proved successful at school. [50] Only one of the many wills that contained the records clearly listed three hospitals as recipients of the foundation's wills. It is the will of Jovan and Marija Trandafil, drawn up in Osijek, on June 24, 1860. Point 6 of the will states that the proceeds from the sale of the two properties in Osijek should be distributed in three equal parts, "... to the Osijek hospital, the hospital in Novi Sad and the hospital in Sombor." [51] More foundations were established on the basis of the testator's legacies for the purpose of assisting in the education of needy students, but this was not the case when setting up foundations to assist the poor. It can be concluded that the education of young citizens and residents of the surrounding areas at the end of the 19th century was clearly neglected due to the economic disadvantages of their families. In order to improve the education rate of young citizens, testamentary legacies with a primary educational purpose replace those that have played a purely charitable role in the previous period. Most foundations established in Osijek in the last decade of the 19th century were largely created with the aim of helping poor students in their education. One of the well-known citizens of Osijek who is the founder of many foundations in the city, from those for helping the poor to those who supported the education and education of those who could not afford it, is Lorenz Jäger. In the will of Lorenz Jäger, dated 10 August 1887, a well-known Osijek wholesaler there is a legacy by which the testator obliges the City of Osijek to establish the "Striftung des Lorenz Jäger" Foundation for the establishment of three new foundations under order number 24, 25, 26 in the welfare institutions of the free royal city of Osijek. [52] The principal amount specified in the record is 10700 forints. Thus, by the will of Josip Brešević, a former canon of Đakovo, written on January 23, 1826, the municipality of Osijek received as a legacy an amount of four Hungarian gold rents, that is, 900 forints, to establish a foundation for diligent students of the Roman Catholic religion at the royal high school in Osijek. [53] In her will of January 24, 1885, Adela Horning left a principal

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[48] The contents of the will relating to the legacy is part of the trust instrument establishing the trust fund on November 28, 1894. HR-DAOS-6, corner. 6402, no. 1,733

[49] The trust fund was founded on September 18, 1885, HR-DAOS- 6, box 6399, no. 1717.

[50] The trust fund was founded November 5, 1880 HR-DAOS- 6, box 6399, no 1721.

[51] The legacy consisted of a house in Count Khuen Hedervary's square no. 5 and the house in Šamačka Ilica no. 25. The sale of the two properties resulted in the sum of 24 900 crowns, which was attributed to the Jovan and Marija Trandafil Trust Fund for the city almshouse. "HR-DAOS-6, box 6403, no. 1741.

[52] The content of the will referring to the legacy is a part of the trust instrument used to establish a Trust Fund on November 18, 1891. HR-DAOS- 6, box 6403, no. 1743. Lorenz Jäger also founded a foundation for the poor, but the amount he donated for this purpose, 20,500 forints, is not an integral part of his last will, but a donation made during his lifetime. The foundation was named "Lorenz Jägers Stiftungs für Mädchen Haisen Haus" and supported 11 girls from an orphanage in their education. HR-DAOS-6, box 6403, no. 1738.

[53] The will was written in Latin, and the testamentary legacy is a part of the trust instrument. The trust fund was founded on March 26, 1895. HR- DAOS- 6, box 6402, no. 1715.

of 8760 forints for the establishment of the "Josip and Jelisava Horning Scholarship Fund for the Poor Good Students of the Osijek Higher Secondary School," based on the will of legacy. [54] The foundation with a very unusual purpose was founded by the merchant and industrialist Jacob Sorger by a legacy in his will written on October 30, 1896.[55] The high amount of 10,000 forints served to establish the Jakob Sorger Foundation for the poor fiancée of his immediate family, or for the poor fiancée from the city of Osijek. The income of the foundation was to be given as a dowry to a poor and unmarried girl who, from her ancestry came from Jacob Sorger or his wife, if she married with the consent of her parents. This record also defines the degree of kinship that a girl must have in order to be eligible for payment from the foundation.[56] The purpose of this legacy is also charitable, and endowment in this case points to a special category of girls that needed to be economically secured to enable her to participate actively and equally in marriage and family formation. As the testator in the record excluded all recipients of a further degree of kinship from the testamentary one, it could be concluded that the legacy was written for the benefit of a specific female person in need of this type of insurance.

6. Conclusion

Based on the analysis of available archival material, wills as well as records of the competent city authorities for hereditary legal issues during the 19th century, the conclusions of the research can be made from several different aspects. The testamentary disposition of property was often used by the institute in the late Middle Ages, as evidenced by the provisions of city statutes that clearly specified the matter. Thus, the formal and legal content of the wills was largely conditioned by the content of the statutory norms as well as the legal provisions of the Tripartite, and the formal requirements regarding the content and validity of the wills did not change significantly after the Austrian General Civil Code came into force in 1853. In terms of contents of wills and testamentary records, significant discrepancies are evident mainly after 1853, not conditioned by changes in the legal framework, but by changed social and social circumstances in the city area and the economic status of the testator. The city of Osijek has been one of the largest and most economically developed cities in Slavonia and Croatia since the second half of the 19th century, as evidenced by the intense activity of the Chamber of Commerce and Crafts and the opening of significant industrial plants. Economic growth also changed the economic position of some prominent citizens, who often contributed to different social needs through disposals of death. For this reason, charitable testamentary legates for the benefit of various public institutions for the purpose of empowering the needy in the second half of the 19th century replaced those who previously had a purely religious component. The testamentary legacies of the late 19th century marked a much more pronounced need to empower the educational role of the younger population, which is why wealthier citizens founded foundations in their wills for the purpose of scholarships for distinguished students. It is surprising, then, that only one testator recognized the need to strengthen the city hospital or

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[54] The contents of the will relating to the legacy is part of the trust instrument by which the trust fund was founded on December 17, 1889. HR-DAOS-6, corner. 6399, no. In 1963.

[55] The legacy reads: „*Auch habem meine Erben aus meiner Verlassenschaft nachstehende Legate der Stadt Essek aus zubezalen: ferners weitere zehntausend Gulten aus Jakob Sorger familien austattungs Striftung. Der Magistrat der Stadt Esseg hat das Capital hypothekarish 6 % zu vezinsen den sechsten Theih der auflaufenden Zinsen kommen von fall zu fall zur Auszahlun jenem Madschen der erblasserischen familie als Ausstattung zum Heiratsgute, die in die Ehe mit Eiwilligung ihrer Elteern oder Vormundschaft oder sonstingen nachsten Anverwandschaft, je nachdem das Verhaltnis der Braut zur Zeite der einzugehenden Ehe sin sollte, treffen wird.*" HR-DAOS- 6, box 6403, no. 1745/915. The trust was founded on January 31, 1899.

[56] The relevant act for determining the degree of kinship is § 731, paragraph 2 of the AGBG.

it points to the conclusion that the health care activity during that period we were referring to was not an economic need.

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A scientific paper

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DESTINATION BRANDING: MEASURING TOURIST PERCEPTION OF DESTINATION BILJE, EASTERN SLAVONIA

ABSTRACT

Creating and branding a tourist destination includes a visible external display of all tangible and intangible elements. In recent years, the goal of tourism content trends has been to transform Croatia into a tourist destination that offers more than a family vacation, and more than sun and sea. In such circumstances, the removal of a number of developmental constraints remains an essential factor in the success of tourism development according to the master plan and strategy of tourism development in the Republic of Croatia until 2020. As Slavonia faces challenges such as unemployment, lack of content and programs of active, cultural and ecotourism, poor visibility and promotion of the region - tourism can become the key for the development of Eastern Slavonia. This paper analyzes what factors are necessary for establishing a stronger tourist identity of tourist destination in Slavonia: Bilje. As an ecotourism destination, Bilje is increasing the number of tourist arrivals and overnight stays, but it has to enhance cross-sectoral and cross-border cooperation with that and, thus, improve the overall socio-economic situation in the region. The aim of this paper is to research the perception of the tourist offer of Bilje as a tourist destination, to examine the views and opinions of potential and actual visitors on the offer, and to examine the level of satisfaction with the tourist offer. Research goal is to find out to what extent are respondents familiar with the tourist offer of the municipality of Bilje and its visual identities with the aim of improving the tourist offer by creating different visitor profiles. The methodology used considers the basic principles of destination management that imply the development of new, innovative ecotourism contents, programs, products, and infrastructure visible through numerous tourist products.

Key words: Bilje, tourism, perception, destination branding.

1. Introduction

Tourism has become one of the trends which millions of individuals access every day. Namely, tourism as an economic activity defines two basic types of participants: tourists – who are enjoying the benefits of tourism, and the tourism workers who use it as an economic activity for achieving income. The goal of branding a tourist destination is to emphasize the importance

of the image of the destination. Marketing strategy of observed Municipality in paper - Bilje is based on a clear mission and vision on balanced tourism development. It aims to establish the preconditions for attracting as many visitors through the Municipality's attractions and the region itself through the utilization of the area's natural resources and infrastructural value. Consequently, the topic is important because nowadays eastern Slavonia is trying to be more relevant on European continental tourist market. Tourism can have a positive effect on local economy through the strategy of quiet export where, using the tourist offer, products offered by the domestic country offering the tourism service can be placed. That way, tourism becomes a distribution channel of products that also promotes products from the tourist destination where it works. That is how tourism expenditure enables the engagement of all other economic activities which can flesh out the tourist offer. A key element in this case are marketing activities which have a significant role in the tourist activity, given that they present a key component which enables the creation of polygons for the aggregation of other activities with the aim of encouraging economic activities. The tourist potential of Croatia as a tourist center is marked in the ever-growing number of tourist arrivals, as well as numerous manifestations through which tourism business subjects offer products and services. Tourism, thus, becomes the carrier of product sales and export. Starting from the existing characteristics of the Croatian tourist-attraction offer, ten key product groups were defined on which the system of Croatian tourist products is supposed to be built until 2020. Product groups and strategies which are important to highlight for the needs of continental tourism are (Tourism development strategy of the Republic of Croatia until 2020):

- Cycle-tourism
- Eno and gastro tourism
- Adventure and sports tourism.

The tourist products being developed within continental tourism are precisely within the frames of the aforementioned product groups. That is why contemporary tourism puts an accent on services in order to reach the consumer/tourist, thus enabling an easier access of their products to the market. Tourist satisfaction has been considered as a main tool for increasing tourism destination competitiveness in the globalization conditions (Pavlić, I. et. al. 2011. 592). The strengths and benefits of the Republic of Croatia as a tourist destination are diverse – from the richer natural resources to geographical diversity and extremely valuable cultural monuments and tradition. The result of the aforementioned presents a diverse tourist offer, which is the basis for further marketing activities with the aim of developing tourist products and services. As one of the most interactive economic activities, tourism has improved significantly since the Internet allowed customers (travelers) to look for and create their trips without the need to go to a travel agency (Erceg, A. et. al. 2020). With advances in mobile technology, the emergence of wearables and "the internet of things" will accelerate the convergence of mobile tourism (m-tourism) to create a social, local, and mobile technology for the travel industry (Liang, Sai, et al. 2017, 732). The rich cultural-historic heritage implemented in the tourist offer expands and attracts various groups of visitors. Precisely such projects, combined with various marketing strategies, create new forms of tourist offers, which will result in the creation of a competitive and desirable tourist destination.

2. Tourist trends

Tourism is a dynamic phenomenon, which changes along with other social transformations (Monaco, S. 2018; Romita, T. 2000). This definition presents tourism as an economic activity that defines participants taking part in tourism development – tourists i.e. travelers. Considering the place of stay of an individual, there is a tourist destination, area of concentrated tourism

offer resulting from increasing number of visitors. Definition of the mentioned terms leads to a conclusion that tourism has become one of the trends joined by millions of individuals on a daily basis. One of the oldest definitions of tourism is that tourism is the sum of the phenomena and relationships arising from the travel and stay of non-residents, insofar as they do not lead to permanent residence and are not connected with any earning activity (Marković & Marković, 1967, 10). According to Ružić, tourism is not nor can it be a separate economic activity, as the needs of travelers as well as other travelers are met through aggregation of several activities (Ružić, 2007, 32). Based exactly on the abovementioned definition, tourism must be observed as a dynamic phenomenon susceptible to strong oscillations, that is, together with the simultaneous development of technology in the constant change of trends. The tourism development trend is based on giving tourist a feeling of authenticity through the notion called "the tourism of experience" i.e. a gathering of interconnected and intertwined emotional elements tied into a suitable destination tourist arrangement in such a way that they give the consumer/tourist a special experience (Jurin et. al. 2016, 8). According to Pellešova tourism is not only the cause of the processes of globalization, it is also affected by them. New tourism markets are emerging which change the notions of demand's existence (Pellešova, 2020). The profile of current and potential visitors is changing qualitatively. Travel customers now want and expect reliable information to drive their decisions, and these are increasingly focused on price, innovation, willingness to take active holidays and to travel to places with diverse and exclusive tourism products (Costa et al. 2016, 621). It is necessary to take tourism trends into considerations in the development of selective forms of tourism. Some of the trends of contemporary tourism demand are (Silvar, 2012, 23):

- Shortening vacation time i.e. strengthening the trend of short trips
- Strengthening the ecological awareness of tourists
- Tourists are searching for authentic experiences on their trips
- Tourists are educated beforehand on the tourist destination they will visit
- Tourists rely less and less on tourism intermediaries and book accommodations online
- Traveling is not planed overly soon because of the faster way of life and frequent changes of plans
- Image is becoming a critical element when choosing a tourist destination.

Some authors agree that trends in tourism are new experiences and a sense of history, authenticity and quality will shape the future of world tourism (Costa et al. 2016, 216). The basic elements of every tourist experience are: transport to the destination, the landscape, climate, population at the destination, accommodation, food and drink, entertainment, attractions and excursions. This assumes that the tourist experience of today is (Jurin et al. 2016, 8):

1. To a large extent individual
2. Subjective
3. Susceptible to change
4. Proactive
5. Interactive, meaning that it looks for authenticity and personalization in its design and delivery. This introduces the tourist experience into an intense dimension of empathy.

The result is that the contemporary tourist wants to be part of a tourist story in which he/she will actively take part i.e. that, based on his/her preferences, a tourist product is build which he/she can adapt for himself/herself. The marketing/management literature treats tourism experiences as consumer behavior, focusing on the consumer service experience, and recently, there is focus on co-creation of tourism experiences, especially in customer to customer

marketing (Quan & Wang, 2004; Rihova et al. 2018; Dodds, R. 2019). Given that the local level enables the highest degree of agility during the movement of new tourist packages, contemporary trends which put a focus on the relationship between the host and tourist, as opposed to just a tourist visiting a destination, can be adapted on local levels.

3. The possibilities of Slavonia's tourist offer

Considering the tourist potentials of continental tourism, in the future, the basic aim of development for Croatian tourism is a more even development of tourism for all its areas, including being equal to coastal part of Croatia (Tourism development strategy of the Republic of Croatia until 2020). Selective forms of tourism are an opportunity and a possibility of the tourist offer of Slavonia. The value of resources and the attractiveness of the space of Slavonia, primarily the Osijek-Baranja county, serve as the basic starting point for the development of tourism. From the aforementioned, the basic aims of tourism development are derived and those are – to achieve economic gain for its population while ensuring the necessary levels of environment protection, as well as rational use of natural resources. The integrated usage approach for the spatial-ecological, traffic, cultural-historic and human resources and "sustainable development" is a model to achieve the aforementioned goal (Report on the work and development of tourism in the Osijek-Baranja county for 2018). The measures employed so far are:
- Using the tourist offer based on natural resources (Kopački rit Nature Park, geo-thermal waters, eco-tourism, cycle-tourism, and other selective forms),
- Renewing and protecting the historical and cultural material and non-material heritage,
- Integrating various tourist offers with the aim of encouraging and developing all forms of tourism and
- Promoting and propagating continental tourism and inter-regional cooperation in designing the tourist offer.

The process of tourist valorization of the aforementioned may encourage and optimize the protection and keeping of values, differentiate and ennoble the tourist offer and achieve recognizability on the tourist market. Achieving synergy is based on building a culture of partnership, expanding cooperation between all participants and the intensive work on development projects through the development of tourist infrastructure, increasing the number of beds, intense cooperation with hotels, village households, tour operators and agencies (Gržinić et al. 2015, 38). The Osijek-Baranja county master plan has the aim of establishing a long-term strategic development framework and define the management-implementation guidelines of sustainable development of space and the aim which will contribute to further advancement of the quality of life of the local community and the further development of tourism and entrepreneurial activities.

4. Research on the perception of Bilje as a tourist destination

The paper focuses on the tourist micro-location – Bilje. The development of tourism in Bilje is connected to the preservation of natural beauties, cultural identity and the maintenance of ecological processes key for the bio-diversity of that area considering the proximity of the Kopački rit Nature Park. The entire tourist offer is based on cultural and natural values which have the potential for a recognized tourist destination. It is necessary to highlight that, in the previous years, there has been an increase in the accommodation capacities in all types of categories, ranging from rooms for rent, apartments, vacation houses, apartments with pools, hostels, and hotels. Travel and tourism research in past two decades and more have

demonstrated that a destination image among tourists is a valuable and irreplaceable concept in understanding the destination selection process (Prežebac & Mikulić, 2008, 163). The aim of research was to explore the perception of recognizability of the tourist offer of Bilje, to question the attitudes and opinions of potential and real visitors on the offer of Bilje and to question the level of satisfaction with the tourist offer. Furthermore, this research had the aim of finding out about the familiarity of the examinees with the tourist offer of Bilje and its visual identities.

The research was done on the appropriate internet sample of 178 examinees from the Republic of Croatia. Research was conducted during May and June 2019. The data was gathered by an online questionnaire in which examinees were familiarized with the theme and aim of research. The description of the sample may be seen in the following table:

Table 1: Sample description

		N	%
Gender	Male	71	39,9
	Female	101	56,7
Age	To 25	53	29,8
	26-35	48	27
	36-45	55	30,9
	46 and more	16	9
Highest level of education completed	Elementary school	1	0,6
	High school	50	28,1
	Professional study	23	12,9
	College or Art Academy	64	36
	Master's, Postgraduate or Ph.D.	34	19,1
Working status	Student	52	29,2
	Employed	106	59,6
	Unemployed	9	5,1
	Pensioner	2	1,1

Source: authors

From the total number of examinees (178), 86% of them visited Bilje at least once in the previous 12 months. Furthermore, a total of 36,6% examinees are familiar with the tourist offer of Bilje, while 19% of them are not familiar with it or are familiar with it to a lower extent. The rest of them, 44,4%, consider themselves to be mediocrely familiar with the offer, which is a significant indicator that the tourist offer should be better promoted. 73,2% of examinees are of the opinion that Bilje is recognizable by its intact nature, 72,5% the eno-gastro offer, and 41,2% by rest. On the other hand, the fewest responses tied to the recognizability of Bilje were connected to multiculturality (84,3%), authenticity (76,5%), and 71,9% examinees believe they are not recognizable by their hospitality. Considering their own experience of visiting Bilje, examinees described Bilje in the way stated in the following table 2. This table shows that examinees believe that Bilje is a recognizable tourist destination for all tourists, especially families and nature lovers, given that it provides natural benefits and contents connected to excellent cuisine and a relaxation in nature. The best proof for the aforementioned is the Kopački rit Nature Park which is most connected to the mention of Bilje.

Table 2: Bilje recognizability

For:	Baranja children cyclists family fishermen hunters lovers nature older Osjecani people tourists young
Because it provides:	beauty content delicacies ethnic food gastrotourism heritage holiday nature rest
Best proof:	Drava Fish Food greda Kopacki Kopackog park rit river zlatna

Source: authors

During their stay in Bilje, the majority of examinees (89,5%) visited Kopački rit Nature Park. 70,6% examinees visited a winery or a restaurant, and 66% of them stayed in nature. The aforementioned can also be seen in the following graph.

Graph 1: Content used during examinee stay in Bilje
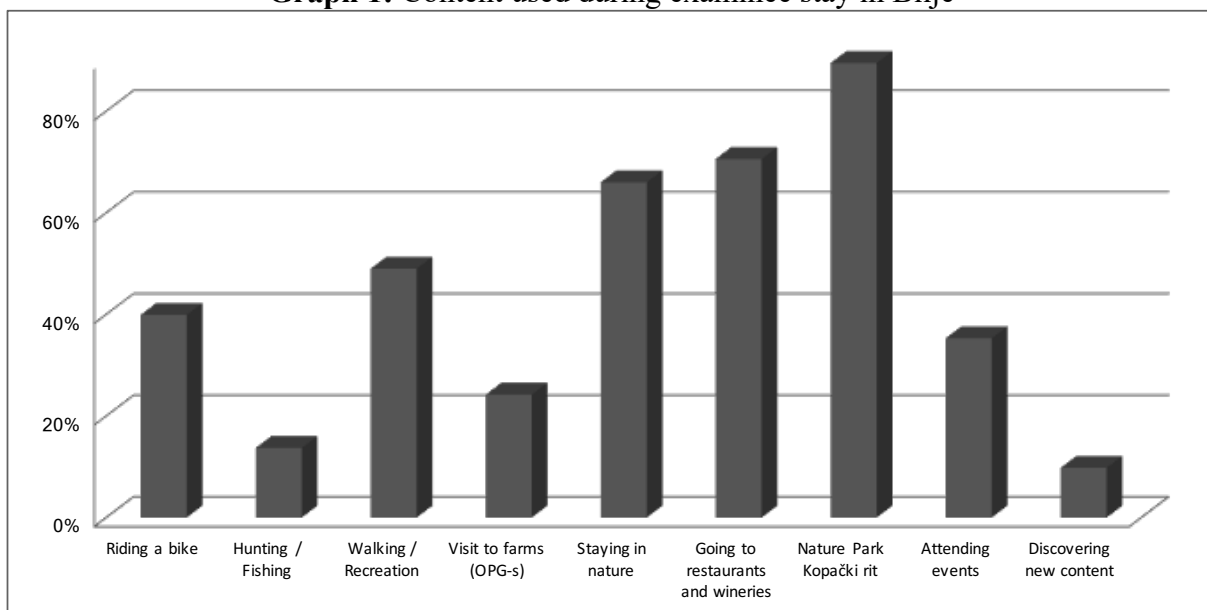
Source: authors

Examinees were satisfied with the majority of content in Bilje, while they were neither satisfied nor dissatisfied with the availability of tourist information. They showed greatest satisfaction with the hospitality of the local population (73,2%), and they expressed the greatest dissatisfaction with the sports content offer (21,5%). The aforementioned can be seen in the following graph.

Graph 2: Satisfaction with the offer of Bilje as a tourist destination
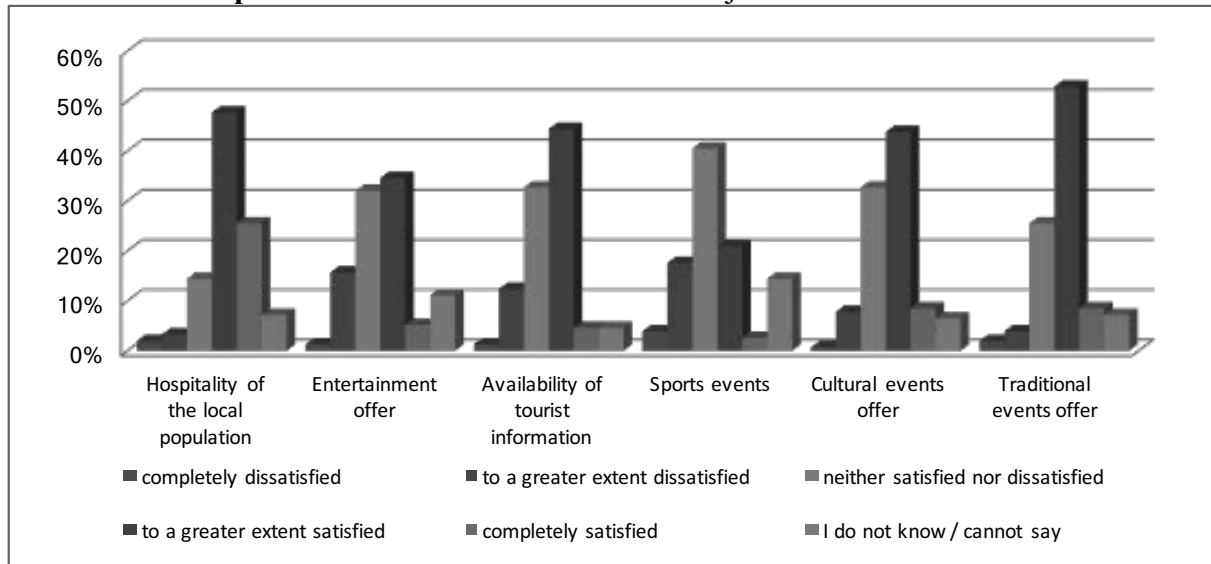
Source: authors

If the examinees who never visited Bilje are observed (14%), 96% of them believe they are not familiar or are scarcely familiar with the tourist offer of Bilje. Even though they are not familiar with it, they believe that Bilje, as a tourist destination, is recognized by its intact beauty (56%), eno-gastro offer (48%) and relaxation (32%). On the other hand, all examinees agree that it is recognizable by multiculturality (100%) and authenticity and recreation (92%).

Research showed that there are certain contents which examinees feel need to be further developed and that it is necessary to put an emphasis on those during the creation of the tourist offer of Bilje. Out of the examinees who visited the place, 20,1% of them feel that there are further investments needed for new content which was not presented/showed/offered so far, 15% feel that Kopački rit Nature Park needs further investments, and 14,4% feel that the cultural-entertainment manifestations require them. On the other hand, examinees who never visited Bilje believe that an emphasis is to be put on the further development of restaurants and wineries (24%), Kopački rit Nature Park (16%) and other new contents which are still not offered (16%). It is visible that the current offer may now be "obsolete" and that potential and real visitors want some new content.

During informing about the visit to Bilje, examinees who visited the place state recommendations as the most frequent reason for visit (family, friends, colleagues) (76,3%), as well as a previous visit (41,4%). The least used sources of information are the Tourist community Bilje (7,9%), traditional media such as newspaper, radio, and TV (15,8%) and internet review platforms (17,8%). Preferred sources of information are websites of the destination/content/offer (63,4% examinees who visited and 52% examinees who haven't visited Bilje), Facebook (56,2% examinees who visited Bilje), internet review platforms (46,4% examinees who visited Bilje and 36% examinees who haven't visited Bilje), and YouTube (36% examinees who haven't visited Bilje).

In order to rate familiarity with the tourist offer of Bilje, and its visual identities, the examinees were asked how familiar are they with certain manifestations in Bilje and can they recognize the logo with a certain subject. The examinees who visited Bilje were mostly familiar with the Kopački rit Nature Park (73,6%), which was to be expected, then the Fishermen's days in Kopačevo (52,6%), the Slama land art festival (44,4%). 41,4% examinees are unfamiliar with the Kakasütés in Vardarac, and 29% with the Eugene of Savoy's Castle Day. If the examinees who never visited Bilje are observed, 36% of them are familiar with the Kopački rit Nature Park, 96% of them are unfamiliar with the Kakasütés in Vardarac, 84% with the Paprika Days in Lug, and 80% are unfamiliar with the International Ethnic Meetings in Bilje, the Eugene of Savoy's Castle Day and the Slama land art festival. In the logo recognizing portion of the questionnaire, the following logos were shown – the logo of Bilje, the logo of the Tourist Community of Bilje, Kopački rit Nature Park logo, Zlatna greda logo and Baranja logo. The majority of examinees recognized the Baranja logo (83%), which is understandable considering that it spells out the word "Baranja", 73% of them recognized the Bilje logo, 67% the Kopački rit Nature Park logo, 50,8% the Zlatna greda logo, and 48% the Tourist Community of Bilje logo.

4.1. Visitor profiles

Examinees who visited Bilje (82%) believe that it is likely they will visit again, which is an extremely good piece of data. The aforementioned can be seen in the following graph.

Graph 3 The possibility of another visit to Bilje
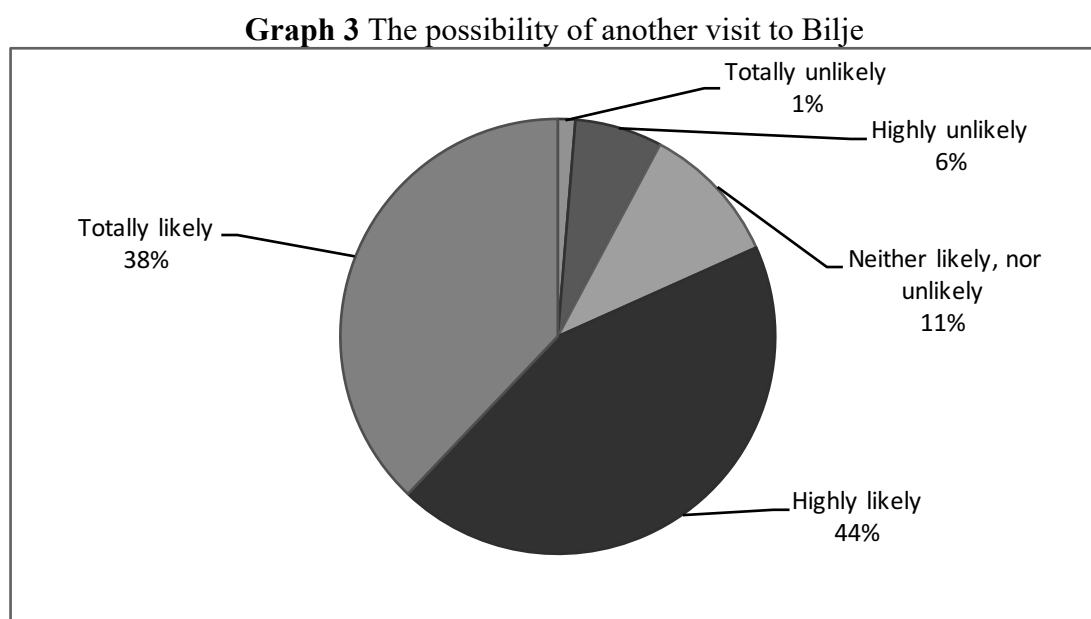
Source: authors

29,2% examinees will recommend Bilje to their friends and colleagues, 37,1% will not do so, and 19,7% will share their dissatisfaction. Based on that, the NPS[1] was calculated, which measures satisfaction and loyalty of a visitor/consumer of services and divides visitors/consumers of services into three groups:

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[1] Net Promoter Score

- Critics (19,7%) – examinees who will not recommend Bilje to their friends and colleagues, are not satisfied with the offer and will share their experience with a third party
- Passives (37,1%) – examinees who do not speak to third parties about their experiences and the offer received
- Promotors/starters (29,2%) – examinees who will recommend Bilje to their friends and colleagues, mostly due to a high rate of satisfaction with the offer.

When creating the profile, a fourth group of examinees will be added, containing the examinees who haven't visited Bilje so far (14%). Description of the profiles is below.

Table 3: Profile description

Critics	The critics are mostly female, employed or faculty students, up to the age of 25 with a finished high school education. So far, they have visited Bilje several times and are not very familiar with the offer. They are most satisfied with the accommodation capacity, expressing great dissatisfaction with the offer of entertainment and sports content. In Bilje, they visited the Kopački rit Nature Park, went to restaurants/wineries and stayed in nature. The stay in nature, along with a bicycle ride, is the content where they would like to see further development. During informing about the visit to Bilje, they mostly used recommendations and the sources they prefer when gathering information are websites of the destination/content/offer, Facebook and internet platforms for reviews. It is highly likely they will visit Bilje again.
Passives	The passives are mostly female, employed, between the ages of 36 and 45 with a faculty degree. So far, they have visited Bilje several times and are mediocrely familiar with its offer. They are most satisfied with the accommodation capacity, gastronomical offer and hospitality of the local population, expressing great dissatisfaction with the offer of entertainment content. In Bilje, they visited restaurants/wineries, stayed in nature and visited the Kopački rit Nature Park. They wish to see further development in the Kopački rit Nature park and the discovering of some new content. When gathering information about the visit to Bilje, they mostly used recommendations and the sources they prefer are websites of the destination/content/offer, Facebook and internet platforms for reviews. It is highly likely they will visit Bilje again.
Promotors/ starters	Promotors or starters are mostly female, employed, between the ages of 26 and 35, with a faculty degree. So far, they have visited Bilje several times and are mediocrely familiar with its offer. They are most satisfied with the hospitality of the local population, while they show great dissatisfaction with the sports content offer. They visited the Kopački rit Nature Park, went to restaurants/wineries and engaged in recreation/walks. They wish to see further development in the Kopački rit Nature Park, as well as the discovering of some new content. When gathering information about the visit to Bilje, they mostly used recommendations, and the sources they prefer are websites of the destination/content/offer, Facebook and internet platform for reviews. It is totally likely that they will visit Bilje again.
Potentials	The potentials are both female and male, faculty students, up to the age of 25 with a faculty degree. They haven't visited Bilje so far and are totally unfamiliar with its offer. They wish to see further development in the Kopački rit Nature Park, their stay in nature and the discovering of some new contents. When gathering information about any destination, they prefer

| | sources such as the website of the destination/content/offer, YouTube and internet review platforms. |

Source: authors

5. Discussion - guidelines for branding

There are four factors which influence the brand value perception with a consumer: brand awareness; perceived quality level in comparison with the competition; the level of trust, importance, empathy and liking; and the attractiveness and richness of the image which the brand causes (adjusted according to, A. et al. 2015, 93). From the destination branding aspect, the brand represents marking the destination i.e. the gathering of all expectations, thoughts, attitudes, findings, feelings, promises and associations we "carry" in our consciousness about this destination. A growing likeness of tourist products i.e. tourist destinations pushes the need for destinations to create their own unique identity in order to differentiate themselves from the competition (Bienenfeld, M. 2019, 93). Certain authors feel that the more brand determinations are offered, the greater the brand relevance is i.e. there are more and more points of differentiation and creation of unique associations which are the basis for the differences in brand image (Keller 2008, Jakovljević, 2000, 22). We can conclude that branding a destination is a strategic tool for long-term planning of tourism and can be used well when formulating a strategy of market segmentation.

This research wanted to find out which attributes and guidelines can Bilje use in its communication as a destination. The examinees feel that Bilje is a recognizable tourist destination for all tourists, mostly families and nature lovers, because it provides natural benefits and content connected to excellent cuisine and relaxation in nature. The best proof for the aforementioned is the Kopački rit Nature Park which is mostly connected with the mentioning of Bilje.

Based on the analysis and primary research, the attributes on which Bilje can build its brand were defined:
- Diverse and rich cultural heritage, tradition, and folk customs
- Diverse traditional and cultural manifestations
- Diversity and specificity of micro-cultures
- Rich and diverse eno-gastronomical offer
- Creation of theme routes
- Restoration of ethnic houses in a private initiative
- Opening private museums and collections
- Attractive natural heritage
- Possibility of hunting and fishing
- The agricultural tradition
- Beneficial geo-traffic position
- Closeness of other destinations within the county
- Satisfying number of gastronomy objects.

We can conclude that the basic elements which define Bilje as a tourist destination are natural wealth and other Slavonian traditions. Taking into consideration the aforementioned elements, the following guidelines for branding which can be applied to the tourist development of Bilje may be considered:
- Design – the aim is to strengthen the value proposal of the destination for the setup of an attractive offer by designing an enticing brand for targeted guest segments. This

relates to icons, symbols, myths, and brand music; the development of Croatian commercial brands and markings

- Communication values – communication activities have the aim of informing guests on the "uses of a destination" and to strengthen the brand through media formats such as advertising or public relations. These initiatives pertain to encouraging inspiration at the destination/informing by way of more important websites; specialist tools and internet websites/content promotion etc.;
- Content delivery – delivering value to customers demands initiatives of creating effective distribution channels and an effective sales system.
- Initiatives of keeping guests – "The tourist chain of values" continues by defining initiatives designed to please guest expectations and stimulate pleasure and loyalty.
- Further support for the industry – the tourist industry demands support through initiatives which include transfer of technologies and knowledge.

In order to enforce the aforementioned guidelines for branding, a wide and general series of priorities, visions, and aims must be defined and enforced, based on which coordinated marketing efforts will be coordinated, which also happen to be the recommendations and guidelines for further research by the authors.

6. Conclusion

Taking into consideration the many positive effects that the development of tourism may have on the local and regional economy, this paper observes a case study on the example of the tourist micro-location and presents guidelines for the branding of Bilje as a destination, based on the visitor profile analysis. The source point presents a pairing of the existing product-service offer and a diversification of the offer through a trend of the demand for ecologically acceptable products and natural resources preservation. The result is achieving a long-term sustainable model of creating a tourist offer at the destination. By keep the local population through the creation of a positive entrepreneurial climate and more effective administrative procedures, the visibility towards emitting markets and target segments is achieve, which is also a systematic approach to the creation of a brand identity which is clearly connected to the destination attributes. This paper analyses the profiles of visitors and their perception of the aforementioned tourist destination, as well as the attributes which may serve for brand development.

Based on the critical trends presented and the discussions provided by the theme issue authors, it is possible to highlight strategic recommendations that can help destination management organizations and policymakers. The starting point is to identify key consumer markets and ways to communicate with them. Statistical data announce a global economic crisis; tourist destinations and tourism companies must tailor their offers to respond to trends from a global perspective. Recommendations for future research are to extend a sample of respondents in research from abroad. Collected data would allow seeing the perception of tourists from key broadcast markets and coordinate marketing activities necessary for destination branding.

The limitations of the paper is the fact that the efforts put in so far for the development of the tourist offer have not been analyzed, due to the fact that they are often the result of sporadic and unsynchronized activities primarily focused on the development of individual attractions which find their places in the total offer spontaneously. The consequences of such an approach affect the uniqueness and recognizability of the market approach in the ever more demanding and competitive environment. Another problem arising from such an approach is the lack of a clearly defined tourist program which has to be under the jurisdiction of the local unite in order to ensure the consistency of the offer. In such conditions, a clearer and more recognizable image of the destination which can then be identified with the communication elements of the brand

is much more likely. By including the local population into the stages of designing, guiding and enforcing all the activities of public action in Bilje is of critical importance. The local population must be familiar with the possibilities of its own contribution, as well as the aims of communication in the context of developing a tourist offer and a brand. The result will be visible through the development of new, innovative eco-tourist content, programs and products for specific groups, and it will ensure the movement from mass tourism to a more personalized and adapted offer.

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MARKETING MOBILE COMMUNICATION OF COMMERCIAL BANKS IN THE SLOVAK REPUBLIC

ABSTRACT

In today's technology-oriented world, institutions need to attract the attention of their customers both in terms of price and quality technology in their products and services. Not only the level of technology, but also pricing itself has a very significant impact on the company's marketing strategy. Companies, including banking institutions, must compete for customers through favorable banking services, which must be comprehensive and meet all customer requirements. Usually, the services of banking institutions aim to satisfy the same or very similar customer requirements, so the level and speed of satisfaction of these requirements is often crucial. Commercial banks use their own mobile applications, the level of which is constantly improved and adapted to current customer requirements. These mobile applications are provided to customers free of charge, so in this case the choice of the bank based on its application is not the price, but the parameters that are crucial for the customer in this case. The main aim of this work is the analysis of mobile marketing in the banking sector in Slovakia. Another aim of the paper was to compare Slovak mobile banking marketing with foreign countries with a focus on mobile banking applications. In this work we used the methodology of mutual comparison and analysis of mobile marketing communication of commercial banking institutions. Based on the analysis, the criteria for the ideal mobile application of the Slovak commercial bank were made. At present, emphasis is on complexity, as customers require all services within a single application without the need for additional add-ons with the need to download further to their mobile device. Security is also very important, especially at this time when the misuse of personal data over the Internet is increasing. Other criteria critical to the customer are the speed and simplicity of such mobile banking applications.

Key words*: Marketing, Marketing strategy, Mobile marketing communication, Mobile app, Commercial bank.*

1. Introduction

Technology is moving the world, and therefore research is increasingly focusing on this area. This work is devoted to the field of marketing communication of banks in the Slovak Republic, and it is about communication of the bank with its customers through mobile

devices. The importance of this subject is steadily increasing as mobile devices are an integral part of almost every bank's customer life. Especially using mobile devices, bank customers often execute standing orders, pay their bills, transfer money to savings accounts, send money to each other or just check their current or savings accounts on an ongoing basis from the comfort of their home. There are several researches in this field and a very interesting work is the research of authors Kirakosyan and Danaiata, who deal with the issue of communication within the electronic banking. Their suggestions and observations to improve and simplify this communication are a constant contribution to this area. Similarly, research on the issue of young customers in the use of mobile banking by Grant and O'Donohoe is very important in this area. The authors address various obstacles to why young people may not be inclined to mobile marketing communications and, based on the knowledge of their work, many companies know what they should avoid when using mobile devices to communicate with their customers. There are several similar researches, each of which is beneficial in some part of the mobile marketing field, as well as the aforementioned research. The aim of the research is to analyze mobile marketing communication within banking institutions within the Slovak Republic. This analysis will be carried out by collecting data on mobile applications in banking institutions in Slovakia and subsequently this data and information are compared with mobile banking applications abroad. The expected outcome of this analysis and comparison is a set of specific recommendations and steps to improve mobile banking applications based on customer requirements and comparison with foreign banking applications.

2. Marketing Mobile Communication

Focusing companies solely on maximizing their profits today is not sufficient for market success. Companies also need to focus on areas such as the social and environmental interests of the public. The marketing strategy of companies must therefore be comprehensive. (Nadanyiova, Kicova, Rypakova, 2015, 223)

Focusing businesses primarily on profit is irresponsible to us and leads to a predetermined failure. The very existence of an undertaking is not based on the fact that its economic result is positive, the undertaking must also take into account other public interests and adapt its objectives and the objective of its existence to the current social requirements.

Valaskova and Kramarova (2015, 839) argue that it is equally necessary that companies have access to information that includes their exact requirements to meet customer needs. The country itself needs to be informed about events abroad in order to ensure the free movement of goods so that companies can trade abroad and meet the requirements of not only domestic but also foreign customers

Many authors and experts in the field agree with their statements, and we agree that the cooperation of companies with the state is possible, but only on the basis of the current database of customers and their specific requirements. That is why we believe that the state authorities must be informed in a timely and complete manner at this level.

For their positive development, companies must set up a marketing strategy within their strategic management that will monitor their interests and intentions. There are various ways and tools that can influence the marketing strategy. A summary of the different elements that can be used to optimize a marketing strategy is the marketing mix. (Kicova, Nadanyiova, 2015, 294)
An important part of the marketing mix is marketing communication, which is its fastest growing part. At the same time, it can be said to be its most perceived and visible part.

Through marketing communication, the company communicates with its customers, current or potential, and also strengthens its image and sales of products and services.

Innovations and modern technologies enable companies to use not only traditional but also modern communication mix tools. Companies should learn to combine these tools as effectively as possible. At the same time, innovative activity in this area increases the competitiveness of the market in particular. (Janoskova, Kral, 2019, 75)

According to the authors Rypakova, Stefanikova and Moravcikova (2015, 363), the effectiveness of individual communication tools is a constant issue, while the most effective way of presenting the target market is communication via social networks and, of course, oral advertising. Market segmentation is much easier to identify by marketing segmentation.

In today's world of rapidly and dynamically developing technology, many people cannot imagine their day without mobile devices. Technology is moving forward and customers' requirements are moving forward too. It is one of the most dynamic tools of modern marketing communication. Its integral and important part is a mobile phone. (Grant, O'Donohoe, 2007, 236) In our opinion, these tools include not only a mobile phone, but increasingly also an essential part of this device - a smart watch. Customers often use this watch even earlier and more often than the mobile phone itself.

Mobile marketing is a term that refers to one of the methods of direct marketing based on the use of mobile devices, such as mobile phones, smartphones and, less often, laptops. Technologies such as SMS, MMS, Bluetooth, WLAN and others are used to distribute commercial or non-commercial content. Thanks to the constant increase in the popularity of mobile phones, mobile marketing can be described as one of the fastest growing and precisely targeted communication activities. At the beginning, the concept of mobile marketing became known thanks to SMS-marketing, which is part of it. This happened after some Asian and European companies started collecting phone numbers and sending ads to it. (Marakova, 2016, 159)

In the case of mobile marketing, the possibility of an internet connection, which is already an integral part of it, cannot be omitted. Using browsers, social networks, searching for music and other information using smartphones is becoming increasingly popular. Also, downloading apps, games, music, or files is a big plus. In addition, the smartphone owner has the option to use different types of browsers that are customized for these devices. Likewise, websites are tailored to the resolution and size of the mobile devices themselves. (du Plessis, 2017, 43) We agree with the author's assertions, because the focus of customers on internet activities on their mobile devices provides companies with an almost unlimited number of connections and communication with customers, which is why the internet has opened up a large number of mobile marketing opportunities. However, it is up to the companies themselves how willing and able to use this opportunity today.

Among the features of mobile marketing can be the fact that it is personal, accessible, instant, global, portable, available in real time and personalized according to the wishes of the customer. It also allows the customer to escape from one place and expand the concept and the notion of time. (Marakova, 2016, 132)

A mobile strategy as a structure defines how different mobile tactics are used to achieve defined marketing goals and meet customer needs. These tactics can be, for example, mobile apps, mobile websites, and other mobile marketing communications tools. The main role of mobile marketing is to raise businesses' awareness by helping them get timely information about the requirements and preferences of their target customers in a profitable way. (Amirkhanpour, 2014, 2021)

Mobile marketing communication is important for all institutions, not excluding the banking ones. In general, all banking institutions should meet the needs of their clients in order to be able to maintain the pace of increasing competitiveness in the market. (Pakurar, Haddad, Nagy Popp, Olah, 2019, 17)

The constant increase in the number of mobile devices is the reason why, in our opinion, all institutions and companies will use the connection through these devices more and more often. We think that in the near future, mobile usage will reach a level that will surpass the use of laptops or computers, not just in the field of marketing communications.

2.1. Advantages and disadvantages of mobile marketing

One of the advantages of mobile marketing is that it is personal because the mobile device is very versatile and also has the advantage of being flexible and therefore does not need long-term preparation. Mobile communication supports and complements the remaining traditional forms of communication. Another advantage is the immediate measurability of individual campaigns. (Frey, 2011, 165)

Also, the advantage of mobile marketing over other communication mix tools is that the mobile phone population is 90%, reaching almost 100% in some countries, and these devices are often available 24 hours a day. Mobile phones have a myriad of features, and this number continues to grow with new features and applications. Mobile marketing elements can be used wherever there is signal coverage. At the same time, the advantage is that the most up-to-date information reaches the mobile internet rather than the print media. (Marakova, 2016, 154)

From our point of view, as a mobile phone user, a large number of applications on a mobile device are a real advantage, but often the incompatibility of these applications, either with each other or with the mobile device itself, is unpleasant and dissuasive for us. Also, in our experience, too many applications are too burdensome for a mobile device to limit its smooth functionality. That's why we consider apps that include several smaller apps or features as simplified versions of multiple apps in one.

One of the biggest advantages of mobile marketing is the portability of mobile devices. In addition, the best and most up-to-date content is mostly coming to the mobile internet rather than to other media. Mobile content can be updated much faster than with print media, for example. (Amirkhanpour, 2013, 2547)

The advantage of mobile banking can be seen as the effect of artificial intelligence within mobile devices and thus also the effect of some level of automation based on cognitive technologies belonging to the key trends in the field of intelligent industry. (Kliestik, Kliestikova, Hardingham, Vrbka, 2018, 16)

The advantage of mobile devices is generally relatively good marketability within the market economy. Care should be taken, however, to ensure that market conditions are met in which non-compliance would require additional trade negotiations. (Peleckis, Peleckiene, Peleckis, 2018, 75)

Just as mobile marketing has its advantages, it also has its disadvantages. The authors of the articles and literature mention various disadvantages of mobile marketing. The greatest disadvantage of many is the risk of misuse of personal data. We consider the greatest disadvantage of mobile marketing the escalation of time spent using a mobile device. In our opinion, this is not only a health problem in vision impairment or increasing headaches, but

also a loss of attention when using these devices, often in activities where it may be life-threatening.

Another disadvantage of mobile marketing is marketing workers who have no experience in this field, further incompatibility of various types of phones and the like. (Kirakosyan, Danaiata 2014, 367)

Limited and inadequate signal coverage in some areas is still one of the biggest disadvantages of mobile marketing. Likewise, the availability of an internet connection or data roaming are major disadvantages. Insufficient internet connection speeds and incompatible applications are also common problems. In our opinion, mobile operators should be able to provide coverage of almost the entire territory with a mobile signal and also with an Internet connection, and, according to models from abroad, provide these services at affordable prices.

From our point of view, the big disadvantage of mobile marketing can be considered its negative forms such as mobile spam, mobile hacking, various forms of SMS spamming and targeted sending of unsolicited SMS. In our opinion, one of the disadvantages of mobile marketing may be the interception and misuse of the information obtained.

2.2. Mobile marketing tools

The most commonly used mobile marketing tools include advertising SMS and MMS, SMS contests, polls and voting, mobile applications, advergaming, QR codes, location-based marketing and others. (Bozhkova, Ptashchenko, Saher, Syhyda, 2018, 76) We can confidently say that the most commonly used tools, among others, are the mobile applications we use every day.

Mobile apps - are programs installed on mobile devices that allow you to shop by mobile, get the information you need, or interact with social networks, relax and enjoy using games. Today, it is a widely used tool from the perspective of companies. (Kapoor, A. P., Vij, M., 2020, 106)

The use of social media for marketing purposes is already essential. No companies or institutions should underestimate this fact, otherwise these companies may not compete. Promoting mobile marketing and its tools through social media is therefore an effective tool to attract new customers necessary to maintain their market position. (Gavurova, Bacik, Fedorko, Nastisin, 2018, 79)

In our opinion, the number of ads on social networks should be limited not by a particular social network, but this restriction should be by law. Many mobile network users find the amount of marketing material annoying or unbearable.

The emotional aspect of mobile marketing cannot be omitted either. It's very important to focus on the customers with a mobile marketing tool that drives them to a certain emotional response. In the event that the marketing communication itself mediated by a particular mobile marketing tool has a certain emotional value or significance for them, so they can decide primarily on the basis of it. (Nadanyiova, 2017, 92)

Different marketing incentives need not only to trigger a positive emotional and cognitive response, but to identify and provide evidence of the impact of the specific mechanisms underlying consumer and behavioral neuroscience decision-making. (Drugau - Constantin, 2018, 48)

Many times, tracking and exploring behavioral aspects of customer decision making is key to developing mobile marketing communication tools that institutions try to adapt to the best possible customer requirements. (Valaskova, Bartosova, Kubala, 2019, 26)

Mobile marketing tools should be used by companies to attract new customers. However, in our opinion, companies often do not choose the right tools to communicate with customers, or even choose the right way to reach potential customers. Therefore, companies should make the choice and use of the mobile marketing tool after obtaining information about customer needs through appropriate market research.

3. Mobile marketing communication of banking institutions in Slovakia

In recent years, mobile marketing communication has seen a huge boom throughout the world, not just within the Slovak Republic. Mobile devices are increasingly used and the home market is no exception. Different institutions use forms of mobile marketing to promote their activities and attract supporters and customers. Banks are also making mobile communications more flexible and efficient. The contact of these institutions with mobile customers has become an essential part of the lives of a large part of the population. According to various surveys, people look at their mobile phones, tablets or smartphones much more often than they watch TV or their computers.

Quality perception is one of the decisive factors for customers to choose a particular banking institution to manage their finances. Equally critical is the quality of mobile marketing provided by these institutions. In particular, customers prefer an up-to-date offer, which is regularly updated based on current trends in mobile communications, as mobile technology and services in particular are moving very fast and therefore banking institutions need to adapt quickly to the market. Therefore, customers can divide individual institutions based on quality perception into different product categories, and this selection can also be based on the brand image and the bank itself. Customers often focus on the global origin of banks, that is, whether banks operate internationally, or whether they operate only domestically. (Bartosik-Purgat, 2018, 135)

Within the Slovak Republic, mobile applications of banks have seen a noticeable development. In the last 10 years, Slovak banks have simplified and upgraded their mobile application services. Many banks offered a large number of applications, each offering a specific service, such as an account overview. Another application used for electronic payments and the like. Today, banks use one complexbanking application that includes all the necessary operations. These applications are clear, simple and very well secured. The advantage is that the customer does not have to procure various applications for all necessary tasks, only one is enough. This is mainly about saving time, and it also does not overwhelm phones with unnecessary applications and does not reduce its performance.

Equally, the security and privacy of banks' mobile applications have visibly improved in recent years. You can use your fingerprint to sign in to the mobile app and confirm payments and transfers. Not only does the fingerprint help protect against the misuse of personal data and funds, but also a face or retina scan is a very effective and unsurpassed security feature. A common part of some banking applications is voice control.

In recent years, banking institutions in Slovakia have charged the service of SMS notifications that were sent automatically and free of charge in the past. Currently, SMS notifications are not sent automatically, only within confirmation codes when paying via internetbanking, and these messages are free of charge.

Within the framework of mobile banking, Slovak banking institutions are increasingly focusing on young people controlling news from the mobile technology world. It should be noted that loyal customers who have been using the services of the same banking institution all their life are no longer as skillful in using mobile devices as younger people. Thus, their loyalty is not based on modern and advanced technologies, but results from various demographic and psychographic aspects. It is imperative that banks focus on bringing this mobile world closer to higher age customers, as regular and loyal customers are equally important to the bank. (Gajanova, Nadanyiova, Moravcikova, 2018, 76) We think the simplicity of mobile apps is crucial in this case. Banking institutions should emphasize the increasingly simple and understandable design of their applications, bringing them closer to customers of higher ages.

4. Comparison of domestic and foreign mobile banking

Unlike banks in the Slovak Republic, banking institutions in the United Kingdom and the United States use mobile calls to verify customer satisfaction with their services, which is not the case in our country. Many times this act is considered harassment, but even the customers themselves take it as a way of improving services and trying to get their personal opinion. Also, English banks use QR codes much more often as a marketing communication tool to simplify their services.

Another big difference between our and other foreign banks is that they offer all services within the application demo versions available on the bank's website. It is only necessary to have activated mobile internet banking, which the customer can first try using the demo version. The client can thus try to use all available services without having to download them to their mobile device in the full version.

Banks in all countries have successfully adapted their websites to mobile devices such as smartphones and tablets. However, the difference in banking applications can be observed here. English and US banks provide these applications to a larger number of mobile operating systems. While Slovak banks only offer applications for Android and iOS (Apple), English and US also offer applications for BlackBerry and Windows Phone. This phenomenon is understandable, however, because these operating systems are not common in our country, but banks should also be able to use their applications to customers who have mobile devices with these operating systems.

Unlike the Slovak Republic, 24-hour telephone services are used in many countries within mobile banking, allowing customers to check their balances, make payments and transfer money via phone call. The customer simply dials the number and the assistant performs all tasks according to the customer's instructions.

Another mobile banking service that is frequently used abroad is that a customer can send money to a friend or acquaintance account only by their mobile number or other contact. Similar services are not provided within Slovak mobile banking. No account number or payee bank code is required. This will automatically send money to your account if you also use this service. If the recipient does not use this service, he / she will receive an SMS message stating that someone has tried to send money with an internet link to the application or with a link to his bank.

This comparison is based on the findings of the bachelor thesis of one of the co-authors of this paper. In the framework of this thesis, it was necessary to communicate with selected major banking entities operating abroad. They provided the data needed for comparison. This previous research was the basis for the research we did. Based on our experience with mobile

banking marketing in Slovakia, we have contributed to the knowledge of current tools used by banking institutions today.

5. Design of ideal mobile banking application

The design of the ideal mobile application is based on the knowledge presented in the previous section, which was based on the research carried out in the bachelor thesis of one of the co-authors. Based on the results of the comparison of Slovak and foreign mobile banking from this work, we conducted an up-to-date overview of parameters that are better or worse in terms of mobile marketing communication of Slovak banking institutions. In this way, with regard to the current knowledge in the field, we designed a mobile banking application that should be ideal according to the previous and this research.

Compared to the past, banking mobile applications are much better tailored to customer requirements and needs. The ideal mobile application of the bank should meet several basic parameters. It should be secure, so it must include the owner's identity verification of the app. Also, the app should require an identity confirmation for each payment transfer and order. Also, the ideal mobile banking application should provide all the services, without the need for the user to download additional applications to their mobile device. Simplicity and clarity are an essential part of a mobile application that would satisfy even the most demanding customers.

Based on a comparison with foreign banking applications, it would be appropriate for banking institutions in Slovakia to use demo versions of mobile banking applications. These demo versions would be offered to every current or prospective customer and provided free of charge. Customers could try using the apps and decide which bank they would like to work with in the future.

6. Conclusion

The design of the ideal mobile banking application must be taken as a guide, not a strict template. Slovak banking institutions should focus on offering applications that are comparable to foreign ones, especially in terms of quality and availability. Among the most important findings of this work is the fact that Slovak banks may provide high-quality and fast mobile banking applications, but they need to make their customers' work with finances within their applications as easy as possible. In particular, they should provide customers with the ability to use demo versions of these applications, simplify payments by securing QR codes, and enhance application security by identifying not by SMS services, but primarily by fingerprints, voice tracks or scanned faces or retina. The knowledge gained from this work can influence the development of banking mobile applications, especially when reducing the cost of market research and customer research. The results of the work also provide the information needed to build an ideal mobile application and determine the requirements for which the development and implementation costs can be further quantified.

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BOOK ADVERTISING IN *NOVINE HORVATZKE*, THE FIRST NEWSPAPER IN CROATIAN LANGUAGE

ABSTRACT

When newspapers started their history on the territory of Croatia in the early 19th century, their potential in advertising was immediately recognized. Among advertisements for various products, goods and services, newspaper readers could also find book advertisements. Newspapers could best trace the rapidly growing production of books due to the shorter time needed for their printing than the bookstore catalogues that had been commonly used at that time. The main aim of the present paper is therefore to examine the extent to which printers, publishers, bookstore owners and authors used Novine horvatzke, the first newspaper in Croatian language, for advertising purposes. The selected book advertisements were analyzed from the quantitative (annual publication frequency of book ads), the form and content (types of bibliographic information identified in book ads), as well as the graphic perspective (graphic design of book ads). As we were limited to the first twenty-five years of the newspapers' publishing life (newspapers are even today known as Narodne novine), the aim of this research was to investigate what types of bibliographic information (author, title, place of publication, printer/publisher/bookstore owner, book content, prices, and book format) had been considered the most important when selling a book in the time span analyzed. The second aim was also to examine the extent to which the 19th century newspapers had been recognized as the important marketing medium. In addition, one of the goals of the present study was also to detect in what way the book ads examined had resembled the contemporary way of book advertising. The authors conclude that the book advertisements were partly similar to the contemporary way of book advertising since almost all of them included the title and author information in the ads, but only occasionally information on book content similar to the ones we have nowadays. Other bibliographic information appeared in the ads irregularly. It can be concluded from this that the publishers/printers and bookstore owners were still insufficiently prepared for this kind of book advertising, which confirms previous known findings drawn upon some other newspapers.

Keywords: *book ads, bookselling, marketing, Novine horvatzke, newspapers, 19th century.*

1. Introduction

With the development of information technology and marketing, publishers and bookstore owners today have the opportunity to advertise their products in a variety of ways - from book promotions and interviews with the authors in the course of events to book promotions through television commercials, Internet portals, guerrilla marketing and jumbo posters. Video book trailers on the Internet portals of different publishers have lately become also very popular (Ragen, 2012, 8-13). However, if we take a look at the marketing opportunities in the course of history, we can see that the possibilities have been far more limited. New editions have been advertised in bookstore windows, at book fairs, on posters and leaflets, in book catalogues, calendars and in already published books. From the 18th and 19th centuries book advertisements appeared also in newspapers (Stipčević, 2006, 482-489, 624-627). Due to their fast pace of publishing, newspapers proved to be a much more efficient way of advertising books at the time and could also reach a larger circle of people than all previous forms of advertising (Krtalić, 2008, 75-76). When the first newspapers (Horvat, 2003, 31-50, 75-107)[1] appeared in the Croatian historical area at the end of the 18th and the beginning of the 19th century, Croatian publishers, bookstore owners and printers, often combined in one person, recognized their marketing potential. This was recognized by the book authors themselves, who often sought out subscribers to their works through newspapers because they could not print them without financial support.

Although already recognized in the 19th century as an extremely useful way of disseminating various information (Stipčević, 2006, 483-484), including those on literary novelties, newspapers from this aspect became interesting to scientists only when the discipline of book history and reading was beginning to emerge in scientific circles over the last two decades. Book advertisements in three Osijek newspapers from the second half of the 19th century, were examined by Maja Krtalić (Krtalić, 2008, 75-92). Zoran Velagić and Nikolina Dolfić were doing similar research on the example of two Zadar newspapers from the first half of the 19th century (Velagić and Dolfić, 2009, 47-63) whereas Jelena Lakuš and Iva Magušić-Dumančić, formed their view of book advertising on the example of *Danica*, the literary supplement of the Croatian newspaper *Novine horvatzke*, the first newspaper in Croatian language (Lakuš and Magušić-Dumančić, 2017, 45-72). Marin Knezović (Knezović, 2001, 47-76), Vlasta Rišner and Maja Glušac (Rišner and Glušac, 2011, 417-436) were examining the newspaper advertising in general, including book advertising as well.

The papers analyzed so far mostly belong to the period during and immediately after the Croatian national revival,[2] which is not surprising at all. It is a time that also coincides with the beginnings of the creation of the modern civil society and with the development of an economy that has engulfed the whole of Europe since the 1830s, encouraging alongside the production of consumer goods also the development of advertising (Lakuš and Magušić-Dumančić, 2017, 49). This tendency resulted in the appearance of the first commercial advertisements in the newspaper *Novine horvatzke* (https://www.enciklopedija.hr/natuknica.aspx?id=44829, 18 February 2020), which was launched in January 1835 by the renowned Croatian revivalist

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[1] The first newspapers in Croatia were published in Latin and German languages, and these were the papers *Ephemerides Zagrabienses* (1771), *Agramer deutsche Zeitung* (1786) and *Kroatischer Korrespondent* (1789). The first newspapers in Croatian language appeared at the beginning of the 19th century, the Italian-Croatian papers *Il Regio Dalmata-Kraglski Dalmatin* (1806-1810) and *Novine horvatzko-slavonsko-dalmatinske,* which began to be published in 1835.

[2] *Hrvatski narodni preporod* [Croatian national revival] is the term depicting „national, cultural and political movement in Croatia from 1835 till 1848. It emerged from the economic, political and social development of Croatia, and is in connection with the process of the formation of European nations in the 19th century (https://www.enciklopedija.hr/natuknica.aspx?ID=26455, 18 February 2020).

Ljudevit Gaj (Stančić, 1998). Although book advertising in the literary weekly supplement *Danica* has already been analyzed, book ads in the newspapers themselves have not been researched so far. The corpus of the present research therefore consists of the newspapers mentioned due to three main reasons. Firstly, this is the newspaper where the first commercial advertisements appear. Secondly, these were the first Croatian language newspapers and their launching marked the beginning of the Croatian national revival. As such, they were certainly attractive as an advertising medium to writers, printers, publishers and bookstore owners, since the newspaper certainly reached a relatively large number of people.[3] And thirdly, their importance has also been reflected in the fact that they still exist today under the name *Narodne novine*.

Given that all previous studies have been fragmentary and, with the exception of one paper, do not deal with formal-content and graphical analysis of advertisements, the aim of this paper is to supplement the previous researches so that a more complete picture of the usage of the 19th newspapers for book advertising purposes can be obtained. Our research intends to determine what bibliographic information on books can be found in the advertisements analyzed: author, title, place of publication/printing, publisher/printer/bookstore owner, price, format, number of pages, and content. It starts with the assumption that the advertisements will contain those bibliographic data that according to printers, publishers, bookstore owners and authors contained crucial information in book promotion. The goal of the paper is to establish the extent to which these early beginnings of book advertising differed from the contemporary ways of book advertisements.

2. Research Methodology

The survey was conducted on the corpus consisting of Gaj's newspaper issues that were published in the first twenty-five years, from 1835 to 1860, because this was the time of the development of advertising. All issues (26 altogether) are accessible through the web page *Stare hrvatske novine* (http://dnc.nsk.hr/Newspapers/Default.aspx, 18 January 2020). During this period a total of 5016 issues were published. At the outset the newspaper was published twice a week, but the frequency of its publication, as well as the name,[4] changed in the course of years. Between 1847 and June 1849, the newspaper was published three times a week, and thereafter every day except Sundays and public holidays.

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[3] We do not have exact data regarding the number of readers of *Novine horvatzke*. However, we know that at that time the number of subscribers to magazines and newspapers, and thus of their potential readers, ranged between 500 and 1200, with most newspapers still being on the lower boundary (Barac, 1933, 2). We also know that an equally important revival newspaper, *Zora Dalmatinska*, had 748 subscribers (Lakuš, 2009, 37, 39-40), which leads us to the conclusion that a similar number of subscribers could have read this newspaper as well. Taking into account the fact that coffee shops, libraries, bookstores and other collective subscribers were often subscribed to newspapers at that time, the number of those who came in contact with the paper itself was presumably even higher.

[4] From 1836 the newspaper was published under the name *Ilirske narodne novine*. After the name "Ilirski" was banned, the newspaper changed its name to *Narodne novine* in 1843 and was issued under this name until March 1844. The name then changed to *Novine horvatsko-slavonsko-dalmatinske*, which was kept until the end of 1846. In January 1847 it changed its name to *Novine dalmatinsko-hervatsko-slavonske,* which lasted until 1849. During this period, the newspaper editors also changed and instead of Ljudevit Gaj, the newspaper was edited by Bogoslav Šulek, who is otherwise considered as the first professional journalist in Croatia. After June 1849, the newspaper changed its name to *Narodne novine*. In February 1850, it came to be the official newspaper for Croatia and Slavonia, which was reflected in its contents as well, as we can find a large number of notices on new laws, job vacancies and similar advertisements. The last change in the name of Gaj's newspaper occurred in 1853 when the name was changed to the *Carsko-kraljevske službene narodne novine* and published under it until 1860. From 1861, the newspaper changed its name to *Narodne novine*, which is also its contemporary title (Horvat, 2001, 75-107).

Book ads needed to be identified by carefully reviewing each issue of our corpus. There have been several items taken into account, like brief announcements on book editions, announcements on the beginning or completion of printing works, reviews of new literature and calls for subscriptions published by newspapers, publishers, bookstore owners or by the authors themselves. The calls to subscribe to book series have been excluded from the research, just like the reports of the societies *Družtvo Matice ilirske* and *Družtvo za poviestnicu*, within which it was often possible to find information on works financed by one of them. After identifying the book advertisements in the newspaper issues, there was a quantitative and qualitative analysis of the advertisements carried out based on the methodology applied to the analysis of the weekly literary supplement of Gaj's newspaper, *Danica*. The aim of quantitative analysis was to determine the frequency of publication of book advertisements during the period analyzed in order to detect the extent to which printers/publishers/bookstore owners and authors held this form of advertising important. All advertisements in which bookstore owners, publishers, printers, and authors promoted new issues have been taken into consideration. Thereafter, it was necessary to remove duplicates, which appeared often, since some advertisers advertised their items in the course of several months. The exclusion of duplicates enabled a more thorough qualitative and/or formal-content analysis. The formal-content analysis consisted of an analysis of the representation of bibliographic data appearing in the advertisements (author's first and last name, title of the work, place of publication/print, information about the printer/publisher/bookstore owner, price, format, number of pages and content) in order to conclude which bibliographic information were considered crucial by printers, publishers, bookstore owners and authors when advertising books. Advertisements that contained information on the author, the title of the book, place of printing/publication, information on the printer/publisher/bookstore owner, and information on format were sorted into three main categories: advertisements that have this information, advertisements that did not have this information, and the "other" category with advertisements in which works were published with miscellaneously cited and available bibliographic information. Regarding the information on the content the advertisements have been listed into two categories only: the ads that did not have this kind of information and those that had it. The analysis of price data was somewhat more complicated due to the fact that prices appeared in different currencies. In order to make the analysis and comparison of price data easier, all the price data was converted to a single currency - the kreutzer. Certain prices were expressed in both forints and kreutzer, the currency that was used in the Austrian Empire at the time of the publication of Gaj's papers. During the conversion there was the change in the equivalent also taken into account, since in 1857 there was an increase in the value of the kreutzer to the forint. All forint prices appearing in book advertisements published until 1857 were converted to kreutzer in the ratio 1: 60, and after 1857 in the ratio 1: 100 (Jakobović, 2014, 50). The calculated values have been divided into several categories to make the analysis simpler: 0-49 kreutzer, 50-99 kreutzer, 100-149 kreutzer, 150-199 kreutzer, 200-399 kreutzer, 400-499 kreutzer and 500 or more kreutzer. However, we found several advertisements that did not contain price data at all, and therefore we had to form the category "other" as well with currencies that could not be converted into kreutzer (francs, lire, etc). Further categorization of book advertisements included sorting them into categories according to page information. The categories were therefore: 0-49 pages, 50-99 pages, 100-199 pages, 200-299 pages, 300-399 pages, 400-499 pages, 500 and more pages. Here too we had to open the "other" category containing advertisements without page information, or those featuring works with differently listed page information. There was also the format of advertisements analyzed, more precisely the format which appeared in advertisements as folio (2° or 2 sheets), quarto (4° or 4 sheets), octavo (8° or 8 sheets), duodecimo (12° or 12 sheets) and sextodecimo (16° or 16 sheets) (https://www.enciklopedija.hr/natuknica.aspx?id=32108, 21 February 2020). Here too we had

to open the "unknown" category for ads that did not have the information on the format. Finally, the advertisements have been analyzed according to their graphic value, so that even through this aspect, we could get a clearer idea of whether printers/publishers/bookstore owners and the authors recognized the newspaper as an important medium of book advertising.

3. Quantitative analysis of book advertisements

By analyzing the aforementioned 5016 issues of *Novine horvatzke*, we found 1801 book advertisements in 745 issues. In *Danica*, which was a literary and cultural weekly supplement to *Novine horvatzke*, and was published intermittently from 1835 to 1867,[5] there were 1028 book advertisements found (Lakuš and Magušić-Dumančić, 2017, 51). Other newspapers, to our knowledge, contained a significantly smaller number which could only be counted in dozens of advertisements.[6]

Chart 1: Frequency of book advertisements in Novine horvatzke
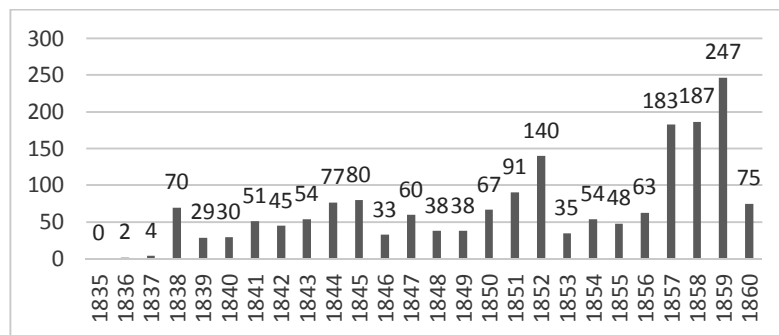
An analysis of the frequency of the appearance of advertisements showed that the ads did not appear in every issue. At the same time, there were also cases in which several ads were found within the same issues. Although during the first three years there have almost not been book advertisements in the paper, it is evident that their number has increased over the years (Chart 1). In the period from 1838 to 1852 the number of advertisements increased, with the exception of the period from 1846 to 1849. In those years, just like in the case of *Danica*, there was a sharp decline in the number of advertisements, which can be interpreted through war and revolutionary events that hit the Empire that may have caused a decline in interest in new books

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[5] *Danica* was published from 1835 until 1849, in 1853 and from 1863 until 1867.
[6] We have data on the number of book ads available for the Zadar newspapers *Kraljski Dalmatin* (1806-1810) and *Zora Dalmatinska* (1844-1849), in which only 7 and 93 book advertisements respectively, were identified. *Kraljski Dalmatin* was the newspaper of the French administration in Dalmatia, which aimed to propagate the ideas of the regime and, in addition to official notices, brought various practical instructions for the local population, especially of the economic nature. However, it was not oriented towards the culture (Horvat, 2001, 46-50), which was the reason why it contained very few book advertisements. *Zora Dalmatinska* (1844-1849) was initially conceived as an enlightenment-scholarly journal, but later it was profiled as a literary journal, so that the number of identified book ads was slightly higher, there were 93 found (Velagić and Dolfić, 2009, 50). There are also information available for the Osijek papers *Esseker allgemeine illustrierte Zeitung* (1869) and *Die Drau* (but only in the first ten years of its publication, from 1868 to 1877). *Esseker allgemeine illustrierte Zeitung* (1869) was the first illustrated newspaper in Croatia and, although in German, it brought news from the cultural life of Osijek where it was published, alongside the literary and other articles (Malbaša, 1978, 31). Despite its profile, there were only 16 book ads found in it. The same number of book advertisements was found in the second Osijek-based newspaper analyzed, *Die Drau* (1868-1932), which brought news from the economy, the everyday life of the city, but also from the culture. In the first decade of their existence, only 16 book advertisements were found there (Krtalić, 2008, 89-90). Only 6 advertisements were also found in *Branislav* (1878), the first newspaper published in Osijek in Croatian language, which also had the subtitle "Newspaper for the Politics and Advanced Economy" (Krtalić, 2008, 88-90).

(Lakuš and Magušić-Dumančić, 2017, 52). Whether this had been influenced by the fact that in those years Bogoslav Šulek was the editor of the newspaper, it is difficult to say. In the period up to 1852, an average of 60 advertisements have been published annually. A similar conclusion was reached by Marin Knezović, who did a research on the first five years of publishing of the newspaper analyzed, only to find that there were 53 advertisements published annually until 1839 (Knezović, 2001, 62-63).[7] Sometimes, as in the aforementioned period from 1846 to 1849, this number was smaller than average and ran about 30 or 40 advertisements a year, sometimes reaching about 80 (1844 and 1845), or 90 (1851), up to the number of 140 advertisements, as was the case in 1852. In the period from 1853 to 1856, there was a rapid decrease in the number of advertisements recorded, which was reduced to only one third and even a quarter of the number of advertisements published in 1852. There are several interrelated reasons for this. Already in February of 1850, Ljudevit Gaj announced that the newspapers had become the official newspapers for Croatia and Slavonia, which was reflected not only at the formal level, in form of the change of name, *Carsko-kraljevske službene narodne novine* (since 1853), but also at the content level. The national newspaper, which, with the *Agramer Zeitung*, were the only permissible newspapers in the time of Bach's absolutism (1852-1859) (Horvat, 2001, 153-156) became, first of all, a platform for publication of a large number of official public auction announcements, various job vacancies, announcements related to political situation in the country and the like, while book advertisements in large numbers began to be published in the literary supplement, *Danica*. This is corroborated by the fact that exactly in that year there was the highest number of book advertisements published in *Danica*, 175 altogether (Lakuš and Magušić-Dumančić, 2017, 52). Since *Danica's* release was suspended the year after, a large number of advertisements were gradually re-appearing in the same main newspaper. There were 274 advertisements published in 1859. A greater number of advertisements was also indicated by the fact that Gaj's newspaper was published every day, except on Sundays. However, it is also most likely that in the late 1850s and early 1860s there was an increased production of books through opening of new printing and publishing houses, as well as an increase in the number of bookstores across Croatia (Vodopija and Hekman Mandić, 2009, 21 -34).

4. Qualitative analysis of advertisements: The representation of bibliographic descriptions in book advertisements

4.1. Author and book title

Information on the book title was found in 1,127 advertisements, or 91% of them. Only 95 ads (about 8%) do not contain this information.[8] Such was, for example, Ljudevit Vukotinović's call for interested readers to subscribe to his collection of poems, but although he stated the price of the collection, as well as the persons who should collect the subscription, he did not specify its specific title.[9] However, the vast majority of advertised works had its title mentioned. In addition to that, the title usually bore information that in the graphic sense dominated the advertisement and seemed to be more important than the authors themselves (Figure 1).

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[7] According to Knezović, in the first five years of publishing (1835-1839) there were 265 book advertisements found (Knezović, 2001, 62-63). The referred article, however, does not mention what was included into the category of book advertisements.

[8] Advertisements in the category "other" make up only 1% of the total number of ads (13 advertisements).

[9] Novine horvatsko-slavonsko-dalmatinske, year 12, number 93 (17 November 1846.)

We find information on authors in 877 ads, i.e. in 71% of them, but 336 advertisements, or even 27%, do not contain this information.[10] These are usually calendars,[11] dictionaries[12] and religious works,[13] which, given their often compilatory nature, is understandable. However, there are also literary works without authors mentioned, for instance collections of poems by different authors.[14]

Figure 1: Ilirske narodne novine, year 8, number 72 (September 6, 1842)

It seems that, as in *Danica* (Lakuš and Magušić-Dumančić, 2017, 56), the way in which information about the author was presented has been largely reduced to the author's first and last name, sometimes this information has not even been completely given. For example, it has been advertised that the Russian translation of Dumas's work entitled *Catharina Howard*[15] has been published in Moscow. The impression is that the advertisement implies that readers know very well which writer it was, and therefore it was considered unnecessary to add some more information about the writer. In Adolf Tkalčević's advertisement for the book *Put na Plitvice* we can also read: "Whoever knows its writer, he is already convinced that this book must be distinguished by its special beauty of language, elegant style and interesting description."[16] Therefore, it has been calculated that readers were very familiar with the writer and the style of his writing. We can therefore conclude that it was unlikely that publishers, printers and bookstore owners held this information unimportant, but the readers were well-versed in domestic and foreign literature, so they did not even need more clarification.

4.2. Information on the place of publishing/printing, bookstore, publisher and printer

We find information on the place of publishing/printing in only about 46% of advertisements (564 ads). This specific data for the remaining 655 advertisements (about 53%) is actually missing.[17] While it may seem that this sort of information has not been held relevant by the printers/publishers/bookstore owners, it is more likely to presume that readers had good knowledge of the bookstore market and knew very well where exactly certain publishers/printers were situated. An example of this is the advertisement on Benjamin Franklin's book *Put do bogatstva*. The ad states that the booklet came out right now "at the expense of Jak. Pretner, build. bookbinder ".[18] Although the advertisement does not explicitly

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[10] Advertisements in the category "other" make up only 2% of the total number of advertisements (22 ads).
[11] Ilirske narodne novine, year 7, number 91 (13 November 1841), Narodne novine, year 9, number 6 (21 January 1843)
[12] Ilirske narodne novine, year 7, number 31 (17 April 1841)
[13] Narodne novine, year 9, number 29 (12 April 1843)
[14] Ilirske narodne novine, year 7, number 29 (10 April 1841), Narodne novine, year 9, number 10 (4 February 1843)
[15] Ilirske narodne novine, year 3, number 63 (8 August 1837)
[16] Carsko-kraljevske službene narodne novine, year 26, number 48 (February 28 1860.)
[17] In the category "other" there were only 16 advertisements or 1.29%.
[18] Narodne novine, year 9, number 29 (12 April 1843)

state the place of publication of the work, the assumption is that readers knew very well that the work was published in Karlovac, where Ivan Nepomuk Prettner had a printing house and a book binding workshop since 1821, and since the 1830s a bookstore as well, placing himself high on a ladder of the printing and book world (https://www.enciklopedija.hr/Natuknica.aspx?ID=50254, 16 February 2020). In addition, it seems that it was much more important to point out where the book could have been obtained than where it was printed/published. In the case of Gundulić's *Osman* it has been stated that the book had been printed and could be obtained from the reading room at the Secretary Vjekoslav Babukić, but the advertisement does not state the exact location of its printing.[19]

The largest number of advertised books was printed in Zagreb, but the places of publication of other books (Vienna, Prague, Warsaw, Novi Sad, Belgrade, Zadar, Osijek, Paris, Petrograd, Ljubljana, Pest and numerous other cities across not only Croatian countries but also Europe) indicate that the readers of the newspaper were well informed about the book novelties in both the domestic and European markets. This is evidenced by the large number (150 in total) of printers/publishers/bookstore owners that appear on the pages of the newspaper issues examined. When the owners of advertisements are analyzed, we can see that the most belong to Ljudevit Gaj, the founder and editor of the newspaper, and Franjo Župan, a member of the well-known Croatian family of bookstore owners, printers and publishers (https://www.enciklopedija.hr/natuknica.aspx?id=67847, 18 February 2020). Milan Hiršfeld and Dragutin Albrecht, publishers and bookstore owners appear in a slightly smaller number, as well as the Czech Jan Postavit Pospíšil, Danilo Medaković from Belgrade and Battara brothers from Zadar. Summing it up, there is about 44% of advertisements in the newspaper citing printers/publishers/bookstore owners, but there is also a relatively large percentage of ads that do not contain this information (about 55%).[20] This is partly due to the fact that our survey also included subscription calls that were printed before starting to print the actual work, through which the writers sought to raise means to publish the book.[21]

4.3. Information on the price of advertised books

We find price data in about 43% of advertisements, more precisely in 532 of them, which is a slightly higher percentage than the one identified in the analysis of *Danica* (28%). Citing this information often depended on who was marketing the book. The most consistent in this regard were Ljudevit Gaj, Franjo Župan and Milan Hirschfeld.

Table 1: Information on the price of advertised works

Price in kreutzer	Number of ads	Percentage
No information on the price	703	56,92%
0-49	205	16,59%
50-99	63	5,10%
100-149	23	1,86%
150-199	6	0,48%
200-399	17	1,37%
400-999	1	0.08%
1000 and more	2	0,16%
Other	215	17,40%
TOTAL	1235	99,96%

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[19] Novine horvatsko-slavonsko-dalmatinske, year 10, number 36 (4 May 1844)
[20] Advertisements in the category "other" make up only 1,38% advertisements, or 17.
[21] Ilirske narodne novine, year 9, number 3 (11 January 1843)

Almost 57% of ads (703 of them) have no price data. Most often, such advertisements did not include information about the printer/publisher/bookstore owner. It seems that pricing was still not a common practice or that the information, as discussed by Lakuš and Magušić-Dumančić, was deliberately omitted in order not to turn away potential buyers (Lakuš and Magušić-Dumančić, 2017, 58). This is also corroborated by the fact that among the advertisements that highlighted the price were the very often cheaper works, those that cost up to 49 kreutzer (almost 17% or 205 advertisements) and those that cost from 50 to 99 kreutzer (about 5% or 63 ads) (Table 1). These works differed according to genre, so we can find religious works,[22] calendars,[23] various practical manuals,[24] literary[25] and historical works[26] among them. However, it seems that even cheaper works were not accessible to the lower classes of society. We found, for example, in an advertisement for a booklet entitled *Bogoljubnost svetkovinah B. D. Marie*, which was being sold for only 10 kreutzer, that the Bishop of Đakovo Josip Kuković handed out 500 pieces to the poor inhabitants of Požega.[27]

Among the books analyzed two had the highest price. One of them was the work of a naturalistic nature (on botany) by Professor Dr. Constantine pl. Ettinghausen and Dr. Alois Pokorny, printed in Vienna. The work cost as much as 160 forints, or 9600 kreutzer, came out in five volumes in the large folio format, on the finest paper, and was equipped with a large number of tables, which, of course, raised its price.[28] The second was of a historical nature, entitled *Monumenta Hungarico Historica*. It was published by the History Department of the Hungarian Academy of Sciences. The price of each volume of this monumental piece (until that time three volumes were published), was 10 forints, or 1000 kreutzer. There is no information about the format, binding or illustrations.[29] It is noticeable that the more expensive books were mostly published beyond the boundaries of the Croatian historical territories. Nevertheless, there were several exceptions, like the advertisement for the fifth volume of the *Arkiva za poviestnicu jugoslavensku*, edited by Ivan Kukuljević Sakcinski, which was being sold at the price of 2 forints and 30 kreutzer, more precisely 230 kreutzer.[30]

The price of the work seemed to be shaped by the art of binding and the quality of the paper. For instance, Dragutin Seljan's book *Početak, naprědak i vrědnost Literature ilirske, s kratkim geografičko-statističkim Ilirskih državah*, cost 30 kreutzer, if it was in soft cover, or 40 kreutzer if it was printed on a finer paper.[31] Likewise, the prayer book *Jezgra kèrstjanske Bogoljubnosti za svakdanju potrebu* by Antun Sabolović could be obtained for 30 kreutzer if purchased unbound, printed on a "good machine paper". However, if the buyer wanted to get a hard copy or an unbound copy printed on a particularly fine paper, he had to give out 1 forint, or 60 kreutzer. If he wanted to get a leather-bound piece with a golden border, the amount would then be increased to 2 forints and 40 kreutzer, or altogether 160 kreutzer.[32]

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[22] Narodne novine, year 9, number 29 (12 April 1843)
[23] Ilirske narodne novine, year 7, number 8 (26 January 1841)
[24] Novine horvatsko-slavonsko-dalmatinske, year 10, number 82 (12 October 1844), Novine horvatsko-slavonsko-dalmatinske, year 11, number 64 (9 August 1845)
[25] Ilirske narodne novine, year 4, number 51 (30 June 1838)
[26] Ilirske narodne novine, year 8, number 73 (10 September 1842)
[27] Narodne novine, year 9, number 29 (12 April 1843)
[28] Carsko-kraljevske službene narodne novine, year 22, number 158 (10 July 1856)
[29] Carsko-kraljevske službene narodne novine, year 24, number 41 (20 February 1858)
[30] Carsko-kraljevske službene narodne novine, year 25, number 83 (12 April 1859)
[31] Ilirske narodne novine, year 6, number 60 (28 July 1840)
[32] Ilirske narodne novine, year 7, number 8 (26 January 1841.)

4.4. Information on the format

We find data on format in only about 7%, or 85 advertisements, while there are about 1130 ads (91%) that do not contain this kind of data.[33] As in *Danica*, most of the books were printed in the octavo (small) format, although this percentage when all book ads is calculated is very small and amounts to only about 5% (66 works) (Table 2). According to the examination of records in *Danica*, the number is slightly higher, about 11%. The books in the octavo format were of different contents, from literary and historical works to dictionaries and grammars, although there are also some examples of collections of church songs.[34] The large folio format was found only once, in the already mentioned example of the Viennese work on botany by Professor Dr. Constantine pl. Ettinghausen and Dr. Alois Pokorny, which was also the most expensive advertised piece.[35] Only a handful of works were printed in other formats, most of them in a very small sextodecimo format. The works of this format had different contents, but very often can we find calendars,[36] works of a religious nature (handy religious booklets intended for the lower classes),[37] practical manuals,[38] and even occasional books.[39]

Table 2: Information on the format of the works advertised

Format type	Number of ads	Percentage
No information on the format	1130	91,49%
2º	1	0,08%
4º	3	0,24%
8º	66	5,34%
12º	4	0,32%
16º	11	0,48%
Other	20	1,61%
TOTAL	1235	99,56%

4.5. Information on the number of pages

Information on the number of pages is very rarely put in advertisements, so that we found it in only 88 ads, or about 7% of them.[40] If we analyze only *Danica*, we can see that this number is bigger, referring to 20% of the ads (Lakuš and Magušić-Dumančić, 2017, 61). The remaining advertisements, 1127 or 91%, do not contain this information (Table 3). If we sum up the analysis, we can see that the most advertised were works with up to 200 pages, followed by works that had less than 50 pages and works with less than 100 pages. Few works had more than 200 pages. The largest work was the book by the Jesuit Karl Passaglia entitled *De Immaculato Deiparne semper Virginis Conceptu commentarius*. The book was published in a "magnificent edition," in two parts, in the octavo format of 1088 pages.[41] Unfortunately, there is no indication at what price the book could be bought. We also find dictionaries, such as the *Němačko-ilirski slovar* by Ivan Mažuranić and Jakov Užarević, printed on "fine machine paper" in the octavo format with 486 pages, which shaped its relatively high price of 5 forints,

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[33] Advertisements in the category "other" contain only 20 ads, or 1.61%.

[34] Carsko-kraljevske službene narodne novine, year 24, number 298 (30 December 1858.)

[35] Carsko-kraljevske službene narodne novine, year 22, number 158 (10 July 1856.)

[36] Novine horvatsko-slavonsko-dalmatinske, year 12, number 79 (3 October 1846.)

[37] Narodne novine, year 9, number 29 (12 April 1843.)

[38] Novine horvatsko-slavonsko-dalmatinske, year 14, number 88 (17 August 1848.)

[39] Carsko-kraljevske službene narodne novine, year 23, number 205 (10 September 1857.)

[40] Advertisements in the category "other" contain only 20 ads, or 1.61%.

[41] Carsko-kraljevske službene narodne novine, year 20, number 274 (29 November 1854)

or 300 kreutzer.[42] Among the books with lots of pages we also find travelogues,[43] historical[44] and literary works, such as the 552-page collection of poems originating from one hundred and twenty poets from the territory of the Austrian Empire.[45] Although the advertisement for the book mentions its highly detailed content and its relevance to the Austrian Empire, it does not provide the information on its price.

Table 3: Information on the number of pages of the books advertised

Number of pages	Number of ads	Percentage
No information on the number of pages	1127	91,25%
0-49	16	1,29%
50-99	15	1,21%
100-199	32	2,59%
200-299	9	0,72%
300-399	8	0,64%
400-499	6	0,48%
500 and more	2	0.16%
Other	20	1,61%
TOTAL	1235	99,79%

4.6. Information on the content

Information on the content of the work is surprisingly small. Only 196 ads, or just under 16%, contain this data, while 1039 ads or 84% do not cite this information. Advertisements that contain content information have a dual look. Along with very brief information about what is in a particular work, usually in one or two sentences, there is a slightly longer text accompanying these lines which should convince potential readers of its scientific, literary or simply patriotic significance (Figure 2). Advertisements sometimes include recommending that particular book as a gift.[46] Another type of advertisements consists of ads that have a short content of chapters, such as the advertisement of *Kalendar za puk za prostu godinu 1847*, published by Dragutin Rakovac. In addition to the title of the calendar, editors, publishers, place of publication and printing, information about the format and price, number of logs, the advertisement also contains an "index" which describes in great detail what readers can find in the calendar itself (Figure 3). If a work had been published in multiple volumes, we can often find a brief summary of the contents of each volume.[47] We could not have concluded that listing the content would be specific to a particular publisher or bookstore owner. However, it can be noted that the above information existed mostly when literary works or calendars were concerned.

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[42] Ilirske narodne novine, year 8, number 60 (26 July 1842)

[43] Novine horvatsko-slavonsko-dalmatinske, year 11, number 63 (6 August 1845)

[44] Carsko-kraljevske službene narodne novine, year 23, number 207 (12 September 1857)

[45] Carsko-kraljevske službene narodne novine, year 20, number 130 (8 June 1854)

[46] Narodne novine, year 9, number 29 (12 April 1843)

[47] Novine dalmatinsko-hervatsko-slavonske, year 13, number 48 (16 June 1847)

Figure 2: Narodne novine, year 9, number 18 (March 4, 1843)

Figure 3: Novine horvatsko-slavonsko-dalmatinske, year 12, number 79 (October 3, 1846)

5. Graphic design of book advertisements

In the early years, advertisements were hard to spot in the newspapers because they were not separated from the rest of the text. They were not placed in separate rubrics and were usually shaped like newspaper articles (Figure 4). Since the use of illustrations has not yet been implemented at the time, the advertisements were not illustrated.[48] Sometimes they were just a small entry within a text, which made it difficult to identify them (Figure 5). Advertisements were often mixed with advertisements for other products and services. For instance, the book advertisement for Marjanović's work *Vitiah* was in the *Oglasitelj* section next to an advertisement for the sale of asparagus and other seeds or for the sale of wine.[49] We assume that the readers of the time were thus finding them, because it was generally known where new products and services were supposed to be advertised (Lakuš and Magušić-Dumančić, 2017, 54).

Figure 4: Ilirske narodne novine, year 2, number 2 (January 5, 1836)

Figure 5. Narodne novine, year 15, number 226 (December 28, 1849)

There were very often several works advertised within a single advertisement, which contributed to the opacity. Such an unprecedented way of advertising seemed to be commonplace, since *Danica* (Lakuš, Magušić-Dumančić, 2017, 53) and ads from Osijek newspapers from the second half of the 19th century (Krtalić, 2008, 82) were designed in the same way.

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[48] The first illustrated paper in Croatia was *Esseker allgemeine illustrierte Zeitung* which was published in Osijek from 1869 (Vinaj, 2003, 7-35).
[49] Ilirske narodne novine, year 6, number 39 (May 16, 1840)

Figure 6: Ilirske narodne novine, year 8, number 68 (August 23, 1842)

Only with the commonly occurring advertisements of the 1840s did ads become separated from the rest of the text, making them easier to see. They were also easier to spot because it became commonplace to physically separate ads of different types with a line (Figure 6).

Table 4: Occurrence of ads according to different sections

Section	Number of ads	Percentage
Not specified	282	22,83%
Slavenske viesti	229	18,54%
Književne viesti	174	14,08%
Austrianska Carevina	121	9,79%
Oglasnik	83	6,72%
Slavjanske vesti	82	6,63%
Knjižstvo	69	5,58%
Oglasitelj	36	2,91%
Hervatska, Slavonia, Dalmacia i Vojvodina Serbia	36	2,91%
Nepolitičke viesti	20	1,61%
Književni oglas	13	1,05%
Različite viesti	11	0,89%
Other	79	6,39%
TOTAL	1235	99,93%

Advertisements appear in nearly fifty different sections. However, most sections have been actually variations of the same section due to the language changes in the time of the National revival. So is for instance the *Oglasnik* section the same as the *Oglasitelj* or *Slavenske viesti* the same as *Slavjanske vesti.* Most of the advertisements, 282 of them actually or about 23%, have been put into the section *Slavenske viesti*, whereas 174 ads (about 18%) have been found in the section *Književne viesti* (Table 4). Ads can also be found in columns organized by regions (*Hervatska, Slavonia, Dalmacia i Vojvodina Serbia, Francezka, Serbia, Cernagora, Gerčka, Rusia, Niemačka, Španjolska, Talianska, Turska, Velika Britania i Irska*), along with other news from these regions, which made it difficult to identify them. The most numerous ones were ads in the *Austrianska carevina* section.[50]

5. Discussion

There are numerous advertisements for books found in Gaj's newspaper. An analysis of the frequency of their publication showed that during the period analyzed they came out regularly, with minor or major oscillations, so we can confirm the previous findings that this type of book advertising was "undoubtedly recognized not only by the publishers and bookstore owners, but also by the authors themselves" (Lakuš and Magušić-Dumančić, 2017, 63). This has been

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[50] The sections where fewer than 20 ads appear are grouped in the "other" category. There were 79 such ads found, that make up just under 7% of all bookstore ads.

especially evident since the mid-1850s, when the number of ads significantly increased. This is due to the fact that Gaj's newspapers have been published on a daily basis, but also due to the fact that an increasing number of printers, publishers and bookstore owners had an impact on the amount of books in the book market, an increased number of books needed to be promoted. The purpose of the present paper was to identify which bibliographic information about books could be found in advertisements, assuming that the ads contained bibliographic information which was considered crucial by printers, publishers, bookstore owners and authors themselves. The study showed that, similarly to the results of the research conducted on the supplement *Danica*, the most common bibliographic data were the data regarding the title (91%) and author (71%) (Table 5). This information was obviously, as it is today, the most important when identifying a work. Although the information about the author has often been limited to the name only, especially when it came to works in the field of literature, numerous advertisements indicate that the readers of the newspapers were well-versed in domestic and foreign literature and therefore did not need extensive information about the writers. Therefore, we cannot agree with the claim made by Lakuš and Magušić-Dumančić on the basis of the *Danica* advertisement research that "publishers and bookstore owners did not consider information on the author at the time as important or as crucial information that would sell the book" (Lakuš and Magušić-Dumančić 2017, 64). We can find almost identical information on the place of printing/publishing (46%) and the printer/publisher/bookstore owner (44%). That percentage, although in part consistent with the research done on book ads in *Danica*, is actually surprisingly small. It has been presumed that it was in the interest of every bookstore owner or publisher to sell a book, so this information should in fact have been indispensable. However, as with the lack of more detailed biographical information on authors, it seems that printers, publishers and bookstore owners counted on the reader to be well aware of the book market and very well know where exactly certain publishers/printers were situated. In addition, it seemed to be much more important to point out where the book could be purchased than where it had been printed/published. As printers and publishers were very often at the same time bookstore owners, in most cases information about where the book could be purchased was also the same as where it had been printed and/or published. Finally, it should be noted that the survey also included a large number of subscription calls, which, of course, did not even contain information on the place of printing or publishing.

Table 5: Representation of bibliographic data in advertisements

Data	Novine horvatzke	Danica
Title	91%	98%
Author	71%	80%
Place of publishing/printing	46%	62%
Printer/Publisher/Bookstore owner	44%	32%
Price	43%	28%
Contents	16%	54%
Format	8%	15%
Number of pages	7%	20%

The amount of advertisements containing information on the price data (43%) is similar to the number of advertisements containing data to the place of printing/publishing and the printer/publisher/bookstore owner, and is also surprisingly small because in addition to the credibility of the author and the personal preferences of the potential buyers, the price could have also been crucial when buying a book. Regarding this, we could agree with the fact that this "may have indicated that the publishers and bookstore owners had not yet been sufficiently prepared for this type of book advertising" (Lakuš and Magušić-Dumančić, 2017, 63). It can

also be explained by the fact that the price has been deliberately left out, especially in the case of more expensive works.

Almost as a rule, the information on the format (8%) and pages (7%) has also been omitted and could be found in very few ads. Only a slightly higher percentage (16%) represented the content of the advertised works. This information is quite different from the ads published in *Danica*, where the short content of the book or at least some aspects of its genre characteristics appeared in 54% of the cases, probably because *Danica* was a literary weekly supplement. The authors concluded that publishers and bookstore owners were already on the lookout for the modern way of advertising (Lakuš and Magušić-Dumančić, 2017, 63), since, according to some studies, the brief display of the content of the work has still been considered important for potential buyers (Danford, 2004, 45).[51] In Gaj's newspaper this information occurred rarely, although some advertisements containing this kind of information look like the present-day reviews and/or brief displays of the content of advertised works.

6. Conclusion

Throughout the 19th century, newspapers became an important medium for the rapid dissemination of information due to their fast pace of publication and readability. In Croatia the time span examined was the time of the national revival, which was marked by the beginning of the publication of Gaj's newspaper in 1835. This newspaper, along with its supplements *Oglasitelj* and *Danica*, followed the social, political and cultural events in the Austrian Empire. There were numerous sections that printed news about book novelties, announcements of works that would be printed and calls for subscriptions published by printers, publishers and bookstore owners, as well as authors. The purpose of the present paper was to establish the extent to which they recognized the marketing potential of the new medium and how these early beginnings of book advertising differed from today's, contemporary ways.

The study, which complemented some existing research on advertising in 19th century newspapers, found that newspapers were quickly recognized as a new marketing medium and that interest in advertising in them had grown over the years. This form of advertising was in many ways similar to the ways of advertising today, because it was almost as a rule that information about the author and title of the book should be given. However, unlike today, when it is quite common to find all other relevant bibliographic information about a book in advertisements like information about the publisher (although not always the publisher's headquarters), year of publication, number of pages, binding, language, price, ISBN (International Standard Book Number)[52] and review or summary of the work[53] many of this information, and in particular the number of pages and the contents of the work were regularly missing from the 19th century advertisements. We did not find book covers either (because the graphic design of the advertisements was very modest) or quotes, which are nowadays commonly used in bookstore advertisements (Krtalić, 2008, 77). Even when information on the content even emerged it was very fussy. Very rarely, there were some examples of advertisements in which the accompanying text sought to convince readers of the scientific or literary value of a work or to indicate its patriotic significance, which is quite similar to the review or book presentation nowadays that very often stand alongside a book that is being

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[51] A survey of user perceptions of book ads by Bookreporter.com in 2004 found that 83.1% of readers consider information on book content to be the most important.

[52] The ISBN started as SBN (Standard Book Number) in 1966 in the UK, but was only used by English-language publishers. In the 1970s, it was internationally accepted and renamed the ISBN (International Standard Book Number). It is a unique identifier for books and other limited publications (What is an ISBN?).

[53] If it is a translation, information about the translator is also provided, and if it is an award-winning work or an award-winning writer, that information is also mandatory

advertised. This led us to the conclusion that, as Lakuš and Magušić-Dumančić stated, publishers and bookstore owners were already on the lookout for the modern way of advertising their products (Lakuš and Magušić-Dumančić, 2017, 63). The future projects that would include the analysis of the section of *Oglasitelj* of Gaj's newspaper, as well as some other newspapers published in the 19th century, would most certainly provide an even more detailed and comprehensive picture of the role that newspapers had in the world of book marketing at that time.

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IMPACT OF PUBLIC DEBT ON THE ECONOMIC GROWTH OF THE REPUBLIC OF CROATIA

ABSTRACT

Transition countries need a level of supplementary external debt financing in order to further accelerate economic growth. In the Republic of Croatia, the state was the main generator of foreign debt growth, especially during the crisis period 2009-2015. The public debt to gross domestic product ratio was 84% at the end of 2016. When external debt rises above a certain level, competitiveness decreases, interest rates rise, there is instability in the national economy. The government must therefore adopt a well-balanced public finance plan in order to maintain a stable economic growth with high levels of employment and low inflation. It is imperative to improve public debt management, increase the transparency of the work of the bodies responsible for managing them, and initiate structural reforms to make them more attractive to new investments. With Croatia's accession to the European Union, merchandise exports have increased, but we are still lagging behind comparable transition countries.

Key words: *public debt, government indebtedness, economic growth, competitiveness, public debt management.*

1. Introduction

By decision of the Council of the European Union, the Republic of Croatia (hereinafter: Croatia) withdrew from the excessive deficit procedure in June 2017. Exit from the six-year economic downturn in 2015 and fiscal consolidation in 2016 proved to be of key importance, when the budget deficit was reduced to 1% of the gross domestic product (hereinafter: GDP) and public debt to 80.5% of GDP. (Ministry of Finance, 2020). It is expressed in monetary units and includes only those products and services that are completed and ready for immediate consumption. GDP is in fact the most comprehensive benchmark of overall economic activity. It is the value of completed goods and services that have been produced within one country over a certain period of time, most often on a quarterly, but annual basis (Economic Dictionary, 2020). During 2017 and 2018, positive developments in the economic activity continued and budget surpluses were recorded in both years. These positive fiscal developments have led to a decrease in the public debt-to-GDP ratio of more than 9 percentage points, from 83.7% of GDP at the end of 2015 to 74.6% of GDP in 2018. In the last few years, borrowing conditions on the domestic and international financial markets have improved, and an active public debt management policy has reduced interest expenditure. According to a report from the European Commission, Croatia has progressed from a category of countries with excessive

macroeconomic imbalances to a category of macroeconomic imbalances. These are all positive indicators, but the country's economy is still characterized by challenges related to low potential growth, high nominal levels of public debt and present macroeconomic imbalances (Government of the Republic of Croatia, 2019).

The aim of this paper is to evaluate the specific parameters of fiscal policy in Croatia, as one of the youngest members of the European Union, and to define the recommendations of European Union in order to improve public debt management.

2. Public debt

Public debt is an alternative way of financing public expenditure, and is based on the voluntary and market relationship of the creditor and the state as a debtor, which undertakes to repay the debt with associated interest. The state borrows for the purpose of raising funds for financing capital projects, repayment of existing debts, implementation of stabilization policy measures and smoothing of the tax burden (Bajo, Primorac, Andabaka Badurina, 2011, 13). These are all the amounts that the government borrowed in order to finance past deficits. Deficit is the excess of budget expenditures over revenues over a certain period of time. Its impact on the economy and their interaction with other economic sizes is seen in the context of concrete fiscal policy. Deficit financing through public debt means the sale of securities with an obligation to repay interest over a number of years, and eventually usually also the principal. When buying and selling securities, there is no coercion, and it is voluntary, the state competes with the other borrowers in the capital market and pays the required interest (Institute of Public Finance, 2017). Most often, there are two components of public debt: internal and external, with external debt being considered less favorable due to possible pressures by international financial circles in the event of irregular performance. There are also two basic ways of borrowing, by taking loans from banks and other financial institutions and issuing government securities on the domestic and foreign financial markets (Švaljek, 1997, 37). There is no single view on fiscal deficit and public debt. This is a result of the assumptions on which the models of the different schools are based. Regarding the economic effects of fiscal deficits, there are Keynesian, Ricardian and neoclassical economic schools. Given the empirical validation and their strength, the Ricardian paradigm must be rejected for theoretical reasons and because there is little evidence of actual economic sizes' behaviour. Much of the macroeconomic empirical research shows that the deficit does indeed have real effects. The main disadvantage of other schools is that, when studying the effects of deficit and public debt on economic activity, they largely ignore the essential elements of policy of deficit financing: the way in which the deficit is financed (debt or monetary financing), the cause of the deficit (increase in government spending or reduction of tax revenues), tax revenue structure and government spending structure, the deadline for deficit financing (except for the neoclassical school that distinguishes between permanent and temporary deficits) and whether exogenous policies are anticipated or unanticipated (Institute of Public Finance - Research, 2001). The economic consequences of public debt can be short-term and long-term. Often the term "crowding out" is used in the literature. Increased government spending on goods and services is pushing out investments. The extent to which the crowding out will occur depends on the financial markets and monetary policy. Deficit financing does not necessarily reduce investments, they will be reduced only because of a mismatch between fiscal expansion and a restrictive monetary policy that does not allow money supply to increase together with rising demand. Public debt has a long-term effect on the accumulation and spending of future generations because the burden of servicing debt reduces the ability of the population. Large public debt reduces economic growth because instead of accumulating private capital, government debt is accumulated. At the time of the sale of government bonds, the savings of the population are transferred, and instead investing

in houses, stocks or bonds of companies, people invest into government bonds. In this way, public debt influences the decrease of production, wages and income.

2.1. Classification of public debt

Public debt is classified according to six criteria. According to institutional coverage there are government and public debt. Government debt includes central government consolidated budget debt. This refers to the state budget and extra-budgetary users. General government public debt includes the consolidated central government budget debt and local and regional government budget debt.

According to the origin (creditor domicile) it is divided into external and internal debt. Most commonly used criterion is debt origination market. Government debt held by domestic creditors is an internal public debt whose repayment represents a redistribution of purchasing power from the taxpayers to those who have in the past been creditors of government debt. When a country borrows abroad, we are talking about external public debt. As it is repaid, the funds are leaving the country, the trade deficit is growing, and servicing them can have serious consequences on the actual loss of production capacity of the debtor country.

According to maturity structure there are short-term, medium-term and long-term debts. The short-term is usually the one with a maturity of up to one year, medium-term with a term of one to ten years, and long-term debt is considered to be one with a maturity longer than ten years.

According to the currency structure, public debt can be expressed in local and foreign currency. Debt issuance in the local currency supports the construction of a benchmark domestic yield curve, which is why borrowing in local currency is preferable to borrowing in foreign currency. The risk which is increased with changes in foreign currency exchange rates further demotivates the issuance of foreign currency debt. However, it is also undesirable to denominate the entire public debt in local currency. One of the reasons is that it could further affect the stability of the monetary system, as increased demand for the Kuna can cause the money price to rise.

According to the interest rate structure criterion, there are fixed rate debts and variable rate debts. Fixed rate debt prescribes a fixed annual fee as a percentage of the principal that the borrower pays to the lender as compensation for disposing of his financial assets. The basic interest rate is related to one of the reference interest rates in the international financial market, e.g. EURIBOR (Emmi-benchmarks, 2020), LIBOR (Global-rates, 2020) or to the inflation rate. In case interest rates are expected to decrease in the market, borrowing at the variable interest rate is preferable. The variable interest rate is linked at a fixed premium to one of the reference interest rates. According to the latest data, the Croatian National Bank (hereinafter: the CNB) will assume the calculation and publication of the National Reference Rate (hereinafter: the NRR). The NRR is one of the significant reference interest rates in the Republic of Croatia calculated and published by the Croatian Banking Association (CBA). The calculated rates will be published by CNB for the first time in May 2020 in accordance with the established publication calendar. It will also publish a methodology for calculating NRR on its website. The CNB's new role in the calculation of the NRR and the use of data provided by banks and savings banks to the CNB as part of its regular reporting have been further elaborated in the Draft Law on Amendments to the Law on credit institutions, after the public consultation (Croatian National Bank, 2020).

According to criterion of marketability of instruments, public debt can be marketable and non-marketable. Marketable debt can be divided into debt in foreign ownership and foreign currency debt. The difference between the two is that the former belongs to non-resident investors, whereas foreign currency debt means the amount of debt issued through the money

market, i.e. bonds issued with the payment of principal and interest rate in foreign currency. Government securities have traditionally been considered as marketable debt instruments. Short-term marketable securities include treasury bills, commercial papers and other short-term instruments (e.g. short-term deposits, overnight borrowings, etc.). They are used to cover the need to finance government budget deficits or debt repayments during the fiscal year, but also as assistance to the Central Bank in maintaining the liquidity of banks, the non-banking sector or the impact on short-term interest rates. Maturity for all of them is less than a year. Non-marketable debt instruments cannot be traded on the secondary market. They are intended for small individual investors without any experience in investing in government securities. An example are savings bonds that contribute to the diversification of government debt instruments, but are disadvantageous in the case of rising interest rates. Should liquidity problems arise, investors have the option of offering to buy the bond from the issuer before its maturity date. In addition, non-marketable debt instruments are financial commitments taken over from public companies, as well as loans from central government banks, commercial banks or international financial institutions (Tatomir, 2009, 4).

2.2. Legal framework for public debt management

The Budget Act (Official Gazette 87/2008, 136/2012, 15/2015) prescribes the basic objective of borrowing and debt management, and aims at ensuring the financial needs of the state budget by achieving the lowest medium and long-term cost of financing while assuming a certain degree of risk. This is necessary to contribute to the achievement of the established fiscal projections, to ensure the sustainability and optimal structure of the debt, and to achieve the objectives set by the debt management strategy. Borrowing is carried out for the purpose of financing the budget deficit, investment projects and special programs (subject to approval by the Croatian Parliament), repayment of government debt, settlement of payments due related to government guarantees, management of budget liquidity and the purpose of covering CNB requirements for international reserves. The Croatian Parliament, through the Law on Execution of the State Budget, which is passed annually together with the state budget, determines the total amount of new government debt and state guarantees that can be taken over or issued during the financial year. The Croatian Parliament reports twice a year, through a semi-annual and annual report on the execution of the state budget, on borrowing in the domestic and foreign markets of money and capital, as well as on state guarantees and expenditures under state guarantees. The Budget Act prescribes restrictions on short-term and long-term borrowing for local and regional self-government units, and the Law on Execution of the State Budget regulates the powers of the Government when deciding to approve long-term borrowing of a local and regional self-government unit. A unit of local and regional self-government may in the long run only be indebted for an investment financed from its budget, which is confirmed by its representative body, with the prior approval of the Government, and upon the proposal of the Minister of Finance (Ministry of Finance, 2019, 5).

2.2.1. Financing account

It is part of the budget showing government debt, debt repayments, how the budget deficit will be financed, and how the budget surplus is planned to be used. It can be clearly seen how high the proceeds are and which proceeds are from financial assets and borrowings, expenditures for financial assets and for repayment of credits and loans. The highest amount which the Government of the Republic of Croatia can borrow on the domestic and foreign markets of a given year is also prescribed. It provides an insight into ways of financing increased spending,

i.e. ways to invest in cases of increased earnings. There are four basic ways to finance the budget deficit:

1. Borrowing from the Central Bank - taking a direct loan from the Central Bank or selling government securities to the Central Bank. This type of borrowing is avoided because it affects the inflation rise. In many countries, it is banned by law in order to preserve the stability of the domestic currency and the stability of prices.

2. Sale of state property – it helps in lump sum reduction of public debt in extraordinary circumstances. An example for this is the privatization of state-owned enterprises. It is more often in the transition countries, and the current consumption is financed through lump sum financing instead of the capital investments and the value of state wealth is being reduced.

3. Borrowing in the domestic financial market - interest rates on loans increase as demand for loans increases. It can lead and to crowding out and reduction of private investment because it makes them more expensive.

4. Borrowing abroad - the outflow of funds abroad and the great potential for the appearance of illiquidity abroad.

3. Public Debt of the Republic of Croatia

The public debt of our country can be defined as the sum of the debt of the state budget, extra-budgetary funds and units of local and regional self-government. It represents an alternative to tax in financing government expenditures and is, as a rule, a voluntary market relationship between creditors and the state. In this way, by borrowing the government defers payment of costs of the today's consumption for the future with the associated interest. For the most part, it is the legacy of the former Socialist Federal Republic of Yugoslavia (hereinafter referred to as SFRY), which has ceased to exist as a subject of international law. The former SFRY republics declared their independence, they were recognized by the international community, and the process of the distribution of Yugoslav foreign debts began. The International Monetary Fund (hereinafter referred to as the IMF) has assigned to all the countries of the former Yugoslavia appropriate quotas, which were based on the GDP per capita. Thus, 28.49% of the assets and debts of the former state were recognized in the Republic of Croatia. For example, Slovenia accounted for 16.39%, Bosnia and Herzegovina 13.2%, Macedonia 5.4%, and the remaining 36.52% the rest of the Federal Republic of Yugoslavia. Part of the debts of the former state to the creditor countries members of the Paris Club was taken over by signing of the "Agreed Minutes on Consolidation of the Debt of the Republic of Croatia", of March 21, 1995 in Paris. Signing of the "Basic Agreement with the Chairman of the London Club" on April 26, 1996 played an important role. The signing and implementation of the agreement with the London and Paris Clubs marked Croatia as a credible debtor. This also meant its integration into the global financial markets. At the end of 2000, debt to the London and Paris Clubs accounted for 20.8% of its total external debt (Duspara, 2002, 87). Croatia inherited USD 2,831.7 million of debt, and inherited the second largest share of debt among all former SFRY republics after Serbia. Although it is not contested that these funds were spent in Croatia, the problematic nature of inherited debt stems from the fact that the criteria for borrowing and the criteria for prioritizing investment projects were transparent. In addition, they were not based on market economy principles and were not in line with the strategy for the long-term development of Croatia as an independent republic (Babić, 1997, 89).

3.1. Drivers of public debt

The drivers of public debt show which are the weaknesses in public finance management, what has led to an increase in debt, and what needs to be done in order to shape its management policy more successfully. The main causes of continuous budget deficits are their structure and height. The excessive deficit of Croatia in 2014 is mostly due to the height consolidated general government budget deficit. In 2015, Croatian level of public debt exceeded the average of the European union (hereinafter: the EU) and it also had the highest average cost of central government debt in the Union (4.6%) (Andabaka, Družić, Mustać, 2017, 465). To ensure the sustainability of public finances, fiscal consolidation measures need to be carefully selected, public debt management improved and public debt restructured (Andabaka et al, 2017, 484). The dynamics of public debt is determined by three main factors: the avalanche effect includes the common effects of payment of interests on accumulated debt and rates of real GDP growth and inflation. Rising levels of public debt may lead to rise in interest rates, the effect of crowding out of private investments due to higher borrowing costs. The increase in public debt in the Republic of Croatia from 2009 to 2014 resulted in higher interest rates. After the interest rates have risen, so did the mistrust of potential investors in the Croatian economy, which directly contributed to the decline in investment during that period; the part of the change in the public debt-to-GDP ratio not covered by the previous two factors is the primary balance of the budget, which includes both interest expenditure and deficit-debt adjustment or the adjustment of stocks and flows.

3.2. Indebtedness of the Republic of Croatia - Findings from the European Commission Report

The European Semester is an annual cycle of economic and budgetary policy coordination in the EU directing the EU countries before they make political decisions at national level. They are directed in the context of the Stability and Growth Pact in the case of macroeconomic imbalance procedure. The European Semester also serves to implement the Europe 2020 strategy. It was launched in 2011 to reduce the impact of the economic crisis and stimulate economic growth in the EU. Each autumn the European Commission publishes an Annual Growth Survey outlining the overall economic priorities for the EU for the coming year. It also publishes a Warning Mechanism Report analysing possible macroeconomic imbalances in the Member States. In February it issues country-specific reports on overall economic and social progress and proposes country-specific recommendations based on an assessment. EU countries are expected to reflect in their budgetary and political plans for next year the recommendations and implement them in the next 12 months (European Union, 2019, 1).

The last European Semester, adopted in February 2019, presents an assessment of Croatia's progress in implementing structural reforms and preventing and eliminating macroeconomic imbalances, and the results of detailed reviews in accordance with Regulation (EU) No. 1176/2011. Sustained economic growth is a major challenge for Croatia. Although it is above the EU average, economic growth in the Republic of Croatia is moderate and is gradually approaching a very slow potential growth rate. Macroeconomic imbalances are being reduced, thanks to a positive economic environment and prudent management of public finances. Favourable economic prospects could be used to accelerate structural reforms, which would spur potential growth. Reforms should be aimed at maintaining positive developments in the labour market and creating a business environment conducive to investment and higher productivity growth. Economic recovery continued, largely due to strong domestic demand. Personal consumption continues to be high as households have higher disposable income due

to increased employment and wages. Public investments remain low, which is slowing down the overall investment activity. Although export of goods and services continues to grow, there are signs of slowing down, and imports are also increasing. Ten years after the financial crisis, the economy could achieve the level of GDP lost in the recession. Further stable employment growth is expected. Due to low inflation, and partly due to consumption tax reduction in 2019 and 2020, household consumption is expected to continue to be a major driver of GDP growth. However, the contribution of investment will increase over time. In particular, high liquidity and interest rate reductions are expected to continue to benefit the private sector. In the public sector, with the approaching end of the programming period, an increased withdrawal of EU funding is expected. Due to the continued deterioration of the trade balance, a growing negative impact of the rest of the world sector on growth is expected. Generally, it is estimated that a moderate real GDP growth is supposed to be 2.7% in 2019 and 2.6% in 2020, respectively. Croatia has made some progress in implementing its 2018 recommendations. Reasonable government expenditure and borrowing have led to a reduction in the debt-to-GDP ratio. After a long delay, measures are being adopted to strengthen the institutional framework for managing public finances.

During the prolonged recession, general government debt more than doubled due to the deficits and costs of state-owned enterprises. The debt-to-GDP ratio has been declining since 2015 and has since fallen by more than 12 percentage points, to an estimated 73.5% in 2018. Its decline was driven by economic growth but also by expenditure control. However, there is no indication that, despite its current sensitivity to exchange rate fluctuations, it is exposed to the risks of "fiscal stress" in the short term and reducing government risks results in reduced debt service costs. However, sustainability risks are higher in the long run, due to the effect of an aging population (European Union, 2019, 5).

As a result of prudent fiscal policy and strong GDP growth, Croatia's public debt ratio has been declining for several years in a row. In the third quarter of 2018 the debt-to-GDP ratio was 74.5% compared with a high of 86.2% in the first quarter of 2015. The decrease was driven mainly by a combination of GDP growth and significant improvements in the general government balance. The structural surplus amounted to 0.7% of GDP in 2017, which means that Croatia is still well above its medium-term budgetary objective (-1.75% of GDP). The implementation of contingent liabilities is expected to have a strong, albeit temporarily negative effect on the government budget balance (more than 1% of GDP) during 2018 and 2019, which will also have an effect on debt. In addition, since the state uses fiscal space to reduce taxes, fiscal policy is expected to become pro-cyclical. However, it is expected that the debt ratio will continue to decline and, thanks to small surpluses and GDP growth, will decline to 68.2% in 2020 (European Union, 2019, 23). More moderate growth is reported while output levels have finally reached pre-crisis levels. Having reached its highest level of 3.5% in 2016, real GDP growth rate slowed down to 2.9% in 2017, and is estimated to have further decreased to 2.8% in 2018. Domestic demand was driven by high personal consumption and strong private investments due to continued favourable financing conditions. Available data from 2018 indicate a slowdown in the upward trend of goods and services exports, while at the same time recording a strong growth in imports of goods and services, albeit at a slightly slower pace, further reducing the effect of net exports on growth. The reduction of private and public sector debt and their exposure to currency and interest rate risk continues. High levels of debt continue to burden the economy, despite a significant improvement in the situation, as the level of private debt is below the level of the prudential threshold and a permanent reduction in public debt is recorded. The corporate sector, however, is over-indebted and burdened with bad credits. External imbalances were further reduced due to the high current account surplus. Liabilities denominated in the foreign currency are also decreasing, suggesting less exposure to exchange rate risk. The unemployment rate is noticeably reduced, although employment

growth is not the only reason: going away to work outside Croatia is an important factor in this decrease. But labour market participation is well below the EU average (Potočnik, Spajić-Vrkaš, 2017, 144). The structure of the Croatian debt has improved in several respects. In recent years, Croatia has used a low interest rate environment to refinance maturing bonds and loans at lower interest rates. The implicit interest rate on public debt in 2017 was at a record low and decreased to 3.4% compared to 4.2% in 2015. In addition, due to the prolongation of the average maturity of outstanding debt and higher issuance of debt in national currency, the vulnerabilities associated with government debt were somewhat decreased. Similarly, the share of debt with fixed interest rates has increased, thereby reducing the exposure to interest rate shocks.

3.3. Recommendations of the Council of the European Union

On April 18, 2019, Croatia submitted its National Reform Program for 2019 and its Convergence Program for 2019. When developing programs for the use of European Structural and Investment Funds for the period 2014-2020 the relevant recommendations of the Commission of the Council of the EU for Croatia in 2019 and 2020 are as follows:

> 1. Strengthen the budgetary framework and the monitoring of potential commitments at central and local level. Reduce the territorial fragmentation of public administration and simplify the functional distribution of competences.
> 2. Reform the education system and improve access to education and training at all levels as well as improve their quality and relevance to the labour market. Consolidate social benefits and improve their impact on poverty reduction. Strengthen labour market measures and institutions and improve their cooperation with social services. In cooperation with the social partners, introduce harmonized frameworks for determining salaries in public administration and public services.
> 3. Focus the investment policy on research and innovation, sustainable urban and rail transport, energy efficiency, renewable energy sources and environmental infrastructure, taking into account regional differences. Increase the capacity of competent authorities for developing and implementing public projects and policies.
> 4. Improve corporate governance of state-owned enterprises and intensify sales of these enterprises and inactive assets. Improve the prevention and sanctioning of corruption, especially at the local level. Reduce the length of court proceedings and improve electronic communication in courts. Reduce the largest para-fiscal charges and over-regulation of the products and service market (Council of the European Union, 2019, 1).

3.4. Fiscal Policy Commission

The Fiscal Policy Commission was established in 2013 by the Decision establishing the Fiscal Policy Commission. It is established as a professional and independent body with the aim of improving the public finance system and monitoring the application of fiscal rules set out in the Law on Fiscal Responsibility, which will contribute to ensuring and maintaining fiscal discipline, transparency and medium and long-term sustainability of public finances (Decision establishing the Fiscal Policy Commission, 2013, 1). It is composed of 6 members who, in addition to the President of the Commission, are appointed by the Croatian Parliament at the proposal of the Committee on Finance and the State Budget for a period of five years and after their term of office they may be reappointed. The main tasks of the Commission are to: review and evaluate the implementation of fiscal rules set out in the Law on Fiscal Responsibility in the state budget and financial plans of extra-budgetary users of the state budget for a budget

year and projections for the next two years; review and evaluate the implementation of fiscal rules set out in the Law on Fiscal Responsibility in the amendments of the state budget and financial plans of extra-budgetary users of the state budget, in the semi-annual and annual report on implementation of the state budget and financial plans of extra-budgetary users of the state budget, in the documents adopted by the Government of the Republic of Croatia related to the process of drafting the state budget and the budget of local and regional self-government units and financial plans of extra-budgetary users and projections for medium-term budgetary framework as well as review and compare the macroeconomic and budgetary projections with the latest available projections of the European Commission in the documents adopted by the Government of the Republic of Croatia or documents proposed by the Government of the Republic of Croatia to the Croatian Parliament related to process of drafting the state budget and the budget of local and regional self-government units as well as financial plans of extra-budgetary users of the state budget for medium-term budgetary framework and determine catastrophe, i.e. larger economic disturbances influencing significantly the financial situation of the budget postponing temporarily the implementation of the fiscal rule provided that fiscal sustainability in medium-term framework has not been jeopardized. (Decision on the Establishment of the Fiscal Policy Commission, 2013, 6).

The position of the Commission, since its last session held on November 5, 2019, when it was discussing the Proposal of the State Budget of the Republic of Croatia and the financial plans of extra-budgetary users for 2020 and the projections for 2021 and 2022, is that the macroeconomic projections from the Budget Proposal can serve as credible a basis for budget planning and for considering the growth of budget revenues. The 2020 projection is the same as the European Commission projection of June 2019. Macroeconomic projections indicate that domestic demand, especially personal consumption and gross fixed capital formation, will continue to be a major generator of growth in the Croatian economy. The contribution of net exports to growth is expected to be negative, which opens risks for sustainability of economic growth, especially in the absence of more serious structural reforms. The Commission warns of the need to limit the growth of budget expenditures financed from general revenues, which continue to grow faster than nominal GDP growth in 2020. According to the plan, public debt should be reduced from 71.3% of GDP in 2019 to 68% of GDP in 2020, and further to 65.0% in 2021 and 61.6% in 2022, and nominal reduction of public debt is expected (Croatian Parliament, 2013, 3).

4. Conclusion

The state borrows to raise funds for financing capital projects, to the repay the existing debts, implement the stabilization policy measures, smooth the tax burden in a certain period of time. Like most EU countries, we have been "pressured" by the recession. For many years, we have been borrowing to finance a budget deficit created by a negative balance of revenues over expenditures. The greatest danger to the country was posed by increased borrowing abroad and using loans to finance consumption rather than investment. In addition to the existing natural resources, a demographic renewal of society is needed without which it is impossible to achieve stronger economic growth. Croatia's accession to the EU has boosted exports of goods, but we are still lagging behind the leading transition member states. According to the World Bank's Doing Business project, which is carried out on an annual basis and includes research of 190 economies and analysis of 11 different indicators, the most recent report from May 1, 2019 shows that the Republic of Croatia is ranked 51st. This indicates that even though we are making progress, it is slow and other countries continue to outstrip us in the overall rankings. Slovenia is ranked 37th, Serbia is also ahead of us, and the EU's best- ranked country is Denmark in the 4th place.

The most important indicator of progress is improvement of the management of public debt, increase in the transparency of institutions responsible for managing it, and establishing of the accountability of institutions responsible for borrowing and issuing guarantees above the prescribed amounts. Furthermore, fiscal policy needs to focus on reducing non-productive public spending and the tax burden. Forecasts are positive, further improvement of the investment climate is expected in the conditions of continuation of good business results and less burdened balance sheets of the enterprise sector, favourable movement of the economic sentiment indicator, as well as maintaining favourable financing conditions, which will certainly be positively influenced also by the recent increase in credit rating.

Economic growth is expected to continue at slightly slowing rates in the context of maintaining the positive gap in gross domestic product, which will be based solely on the contribution of domestic demand, while the contribution of net foreign demand will be negative. Personal consumption will continue to be a major driver of the country's economic recovery.

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NEW LAW ON TOURIST BOARDS AND PROMOTION OF CROATIAN TOURISM IN FUNCTION OF TOURISM DEVELOPMENT OF THE SLAVONIAN POSAVINA

ABSTRACT

The new Law on Tourist Boards and Promotion of Croatian Tourism, which came into force on January, 1, 2020, prescribes the possibility of associating among local and regional tourist boards and local self-government units, if no tourist board has been established for the area of the local self-government unit, that by signing mutual interest agreements, with the aim of joint development of the tourist product and promotion of the destination. Following this, representatives of three tourist boards and mayors of seventeen municipalities that have settlements in the Slavonian Posavina area, and are currently networked in the tourist destination "My beautiful Slavonia near the Sava", have prepared a new cooperation agreement in accordance with the guidelines of the Croatian Ministry of Tourism, so that, after verification the agreement by the Ministry, could also use funds from the Croatian National Tourist Board Fund for joint tourist boards/local self-government units to realize joint marketing activities. The primary research conducted among the signatories of the agreement in the form of a questionnaire aimed to identify the promotional activities of the Destination, which, in the opinion of the respondents, should be financed by the Croatian National Tourist Board. The results of the research will assist the tourist boards and local self-government units in the Destination in planning the tourist development of individual cities and municipalities in the Destination, especially in the sense of a more realistic view of possible sources of financing of tourism projects.

Key words: *tourist destination; consensual association; My beautiful Slavonia near the Sava; marketing activities.*

1. Introduction

Speaking about the tourist destination, the main focus is on the one hand, at the resource base that will act as an attractive force for tourists, and on the other hand, at the appropriate infrastructure that will serve the needs of tourists (Lončarić, B., 2012, 140). A tourist destination is a place where visitors temporarily stay for interactions and attractiveness (Pike, S., 2008, 26,33), and it is also possible that a wider area represents a functional entity (Vukonić, B., 1996).

Most empirical research does not bother with the definition of tourist destination at all, but simply deals with sites where visitor traffic takes place or where it might take place (Hitrec, T., 1995, 43-51), meaning sites that represent geographical ares with similar characteristics that

have attractive, communicative and receptive, and all those natural, social, atropogenic, cultural-historical and traffic factors, as well as those necessary for accommodation and food, rest, recreation and entertainment of tourists (Dobre, R., Župan-Rusković, P., Čivljak, M., 2004, 4). Looking in the tourist sense, the "boundaries" of tourist destinations are determined by the market, so they must not formally stand between locally internal and locally external tourism opportunities (Magaš, D.,1997, 22).

On the global tourism market there is an increase of tourists' interest for authentic and new experiences closely related to the local culture and lifestyle in the destinations they visit (Bakan, R., Tubic, D., Randelj, J., 2018, 701). Tourists who are persuaded to visit a destination should be offered a unique experience (Gorše, M., Kutnjak, G., Grčić-Fabić, M., 2016, 185), what is the responsibility of the destination management, which should recognize the specifics of the destination by offering them to the clearly defined market segments through attractive and responsive packages of services and tangible products (Bartoluci, M., Hendija, Z., Petračić, M., 2016, 881). In this regard, destination managing should be viewed as tourist attractions that engage local interests within meaningful business cooperation with the offer holders for the purpose of creating a destination product (Magaš, D., 2008, 9).

Connecting geographically to a destination managed uniquely brings many benefits such as enriching own resource base, greater efficiency in marketing activities on the domestic and international markets, stronger image, more customers and higher revenues, more efficient distribution and sales of products. The geographic group of directly related companies and related institutions in a particular area (cluster) is linked by similarities and complementarities (Porter, M.E., 2008), and today there are sufficient empirical evidences to indicate that innovation and competitiveness growth are mostly geographically concentrated (Dragičević, M., Obadić, A., 2013, 10).

In the context of globalization and increasing competition, cooperation and integration in the tourism sector, especially of the less developed areas of tourism, is a necessity for survival in the tourism market (Christensen, P., Mclntyre, N., Pikholz, H., 2002, 19-21). Networking is primarily conditioned by the heterogeneity of various activities related to accommodation, catering, transportation and more; the need to transfer knowledge and structural integrations in the function of tourism development and to enhance the strategic competitiveness of the destination (Scott et al., 2008, 90), and it results in qualitative and quantitative benefits for the economic entity, community and destination (Morrison, A.M. et al., 2004, 198).

2. Tourist destination "My beautiful Slavonia near the Sava" as an example of good practice

The Ministry of Tourism of the Republic of Croatia, through the pilot project "365 Croatia", started in 2014 (Lončarić, 2016, 167), identified activities that should be undertaken in order to make better use of resources during the pre- and post-season (Lončarić, B., Ružić, D., 2015; 282), which implied the joint activities of entities networked in tourist destinations. Although the project did not convene in practice (Lončarić, B., 2017, 854), primarily because the Croatian National Tourist Board, until the entry into force of the new Law on Tourist Boards and the Promotion of Croatian Tourism (NN 52/2019), allocated funds to improve activities of tourist boards in underdeveloped tourist areas exclusively to the tourist boards of individual counties, even in cases involving the implementation of a specific program/project in several administrative areas (Croatian National Tourist Board, 2019, 2), the project has become the

starting point for connecting entities engaged in tourism and belonging to areas with similar geographical features, climate, historical settlements, etc., regardless of the administrative structure in terms of territorial affiliation to the same county.

Thus, after the initial meeting held in March 2015, at the urging of the Mayor of Slavonski Brod as the President of the Tourist Board Slavonski Brod, the project of networking three cities and seventeen municipalities gravitating to the Sava River in the Brodsko Posavska and in the Vukovarsko srijemska County was launched, and the cities and municipalities networked into a joint tourist destination "My beautiful Slavonia near the Sava", all within the framework of the before mentioned project of the Ministry of Tourism. During the same month, a cooperation agreement was signed and cultural and eno and gastro tourism were identified as key tourism products; Austrian and German markets as key geo markets, and the Slavonski Brod Tourist Board as a legal entity authorized to represent the Destination. In May 2015, the Croatian National Tourist Board awarded the Destination the project designation till June 2018 (Slavonski Brod Tourist Board, 2020, 4,5).

After the expiry of the cooperation agreement in June 2018, cooperation between the cities and municipalities of the Destination continued and in September 2018 a new cooperation agreement was signed for a further period of three years, all in the function of further realization of joint projects of the Slavonian Posavina, as a unique tourist area, considering its geographical features but also its cultural and historical heritage. The Destination continued to operate under the name "My beautiful Slavonia near the Sava" and in the meantime numerous joint projects were implemented, with emphasis on promotional activities such as publishing of promo material and online advertising, as well as marketing infrastructure activities such as video recording, creating photo galleries and other.

3. New legislation in order to promote the development of the tourist destination "My beautiful Slavonia near the Sava"

The new Law on Tourist Boards and Promotion of Croatian Tourism which came into force on January, 1, 2020, encourages associating of local and regional tourist boards and local self-government units (Article 54), if no tourist board has been established in the area of the local self-government unit, in order to jointly carry out one or more activities aimed at developing a tourism product and promoting the destination so that in joint activities they act as a single destination (Article 53, paragraph 1 of the Act). The concept of a single tourist destination is defined in Article 2, item 1 of the mentioned law and means "market and tourist valorized spatial unit which is the goal of tourist trips and encompasses the area of one or more units of local or regional self-government".

In order to encourage associating, through the co-financing of projects and programs of associated tourist boards, the Croatian National Tourist Board will, in accordance with the provisions of Article 12, paragraph 3 of the Law on Memberships in Tourist Boards (NN 52/2019) and the provisions of Article 20, paragraph 1 of the Law on Tourism Tax (NN 52/2019), grant the funds from the Associated Tourist Board Fund, if associating has been carried out in accordance with the provisions of Article 53, paragraph 7 of the Law on Tourist Communities and the Promotion of Croatian Tourism, that with the prior consent of the Ministry of Tourism.

At the beginning of January 2020, the Tourist Board of the City of Slavonski Brod, on behalf

of the tourist destination "My Beautiful Slavonia near the Sava", requested the Ministry of Tourism the prior consent for associating, in order to comply the cooperation between the tourist boards and municipalities in the Destination so far with the provisions of the new Law on Tourism Boards and the Promotion of Croatian tourism, all with the goal of creating preconditions for the use of funds from the Associated Tourist Board Fund. A proposal of the text of a new co-operation agreement was submitted to the Ministry as an attachment of the request, but the Ministry had not yet made a statement on the request.

4. Results of the primary research within the tourist destination "My beautiful Slavonia near the Sava" from the February 2019

During February 2019, a primary research in the form of an online questionnaire had been conducted to examine the views of representatives of cities and municipalities, tourist boards and the Destinations tourism sector regarding their interest in participating in the Destinations joint projects and the resulting benefits. 81 respondents (74.1% from the area of the Brodsko Posavska County and 25.9% from the area of the Vukovarsko Srijemska County) had participated in the research, which makes 54% of the total number of potential respondents to whose e-mail addresses the questionnaire had been sent. Looking at the activity of the respondents, 49.4% had been from the sector of providing accommodation and catering services; 14.8% had been representatives of local government and self-government units; 11.1% of them had been representatives of tourist boards; 8.6% owners of travel agencies, while the remaining 16.1% had belonged to other sectors, with the largest share of trade.

The results of the research had showed that, when it comes to tourism products of the Destination, 59.3% of the respondents had singled out gastronomy and oenology and manifestations as a key tourist offer, while 35.8% had considered culture as a key tourism product. Regarding the need for cooperation of the tourist entities of the Destination, regardless of the administrative structure, and the need for a unified presentation in the tourist markets, 60.5% of the respondents had fully supported the cooperation regardless of the administrative structure, and 67.9% had fully agreed with the statement that Slavonian Posavina had all the characteristics of a complete tourist destination and as such had to be uniquely represented in the tourist markets (Lončarić, B., 2019, 771).

5. Results of the primary research within the tourist destination "My beautiful Slavonia near the Sava" from the February 2020

In February 2020, a new primary research was conducted, again in the form of an online questionnaire. Respondents were asked a total of 11 questions. In the first answer the respondents had to enter the name of the tourist board/municipality and in the second the function of the person completing the questionnaire. The third question was designed using the Likert scale, so respondents ranging from 1 (complete disagreement with the statement) to 5 (complete agreement with the statement) expressed their attitudes regarding cooperation between tourist boards and municipalities in the area of the Destination in the coming period. The further eight questions were answered by ranking according to the order of priority marketing activities and the need of financing them by the Croatian National Board. Ranking started from the lowest and moved in the direction of the highest priority.

The research involved 17 respondents (accounting for 85,0% of the total number of representatives of tourist boards, ie municipalities within the Destination), of which 5

representatives of tourist boards and 12 representatives of municipalities, ie 11 respondents from the area of the Brodsko Posavska County and 6 respondents from the Vukovarsko Srijemska County. The results of the research are presented in figures and explained below.

Figure 1: Cooperation between tourist boards and municipalities in the Destination, the question and the answers

Do you agree with the statement that cooperation between tourist boards and municipalities in the area of the Destination should be developed in the coming period, regardless of whether the Croatian National Tourist Board will provide financial support for the implementation of joint projects? (Possible answers in the range of 1 – I disagree to 5 – I completely agree.)
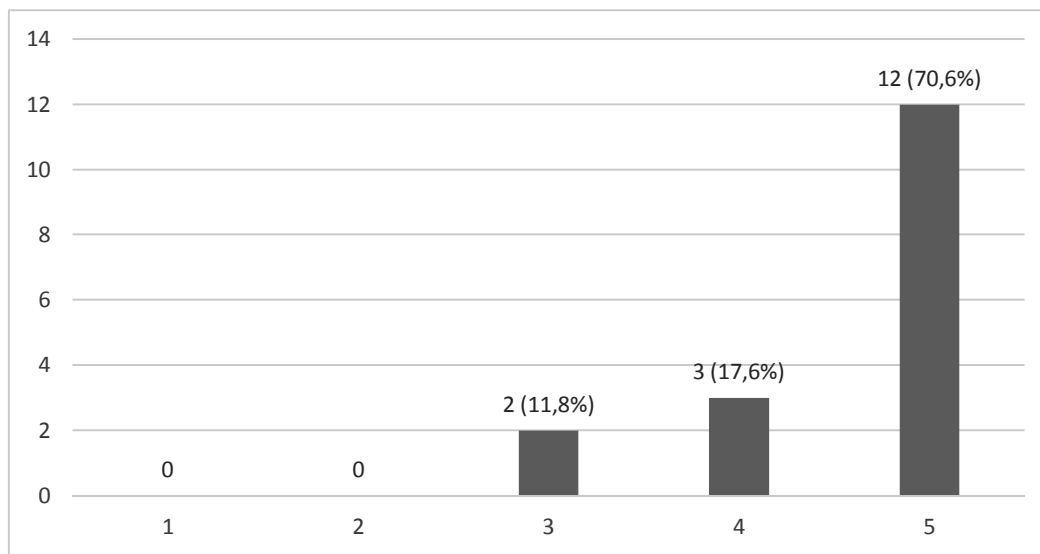
Source: Self-conducted research, February, 2020

Figure 2: Branding and labeling as a priority marketing activity within the Destination, the question and the answers

Rate in the range from 1 (the lowest rating) to 5 (the highest rating) "branding and labeling" as a priority marketing activity within the Destination.
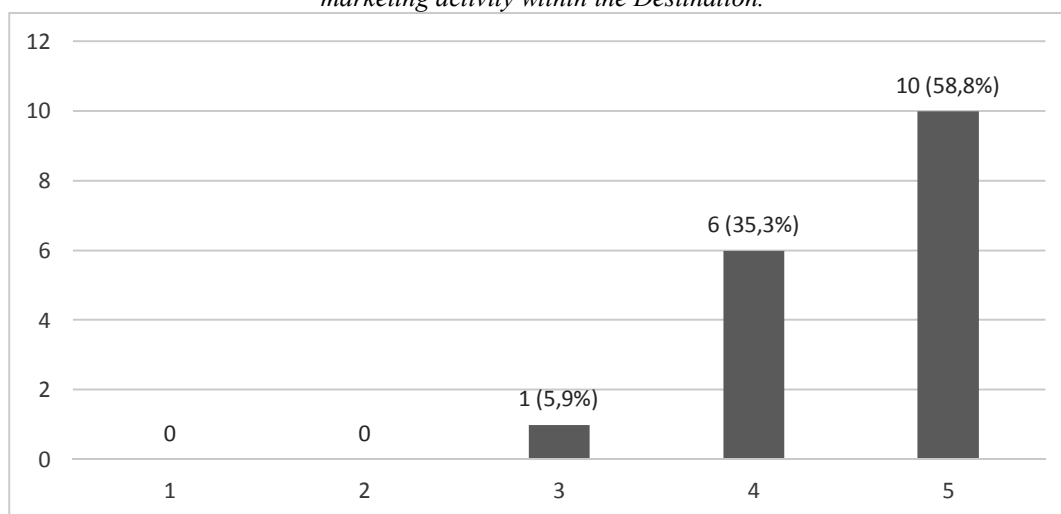
Source: Self-conducted research, February, 2020

Figure 3: Online and offline advertising as a priority marketing activity within the Destination, the question and the answers

Rate in the range from 1 (the lowest rating) to 5 (the highest rating) "online and offline advertising" as a priority marketing activity within the Destination.
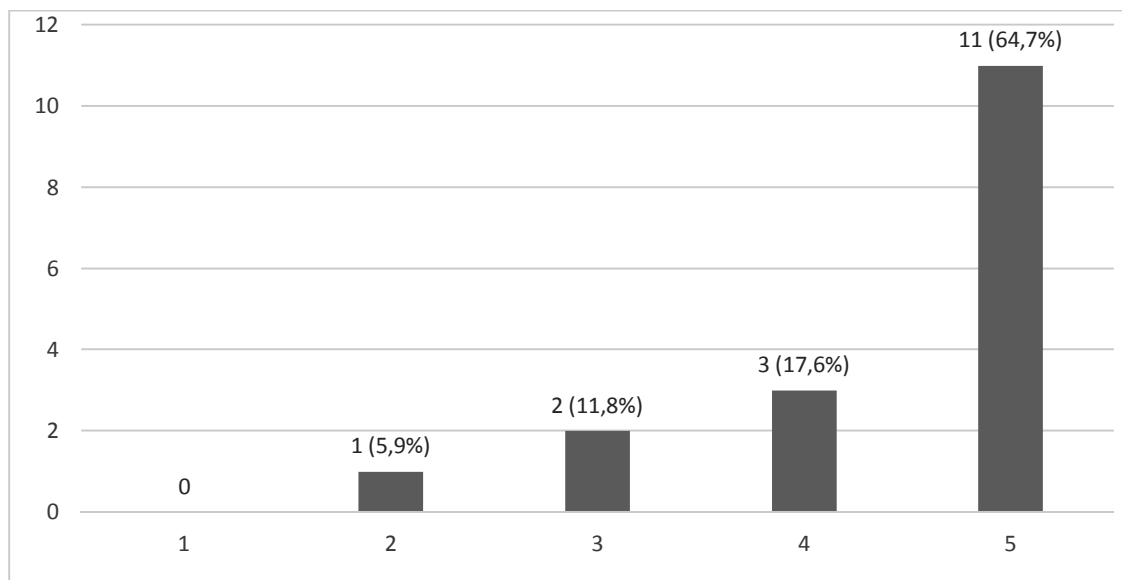
Source: Self-conducted research, February, 2020

Figure 4: Publishing promotional brochures as a priority marketing activity within the Destination, the question and the answers

Rate in the range from 1 (the lowest rating) to 5 (the highest rating) "publishing promotional brochures" as a priority marketing activity within the Destination.
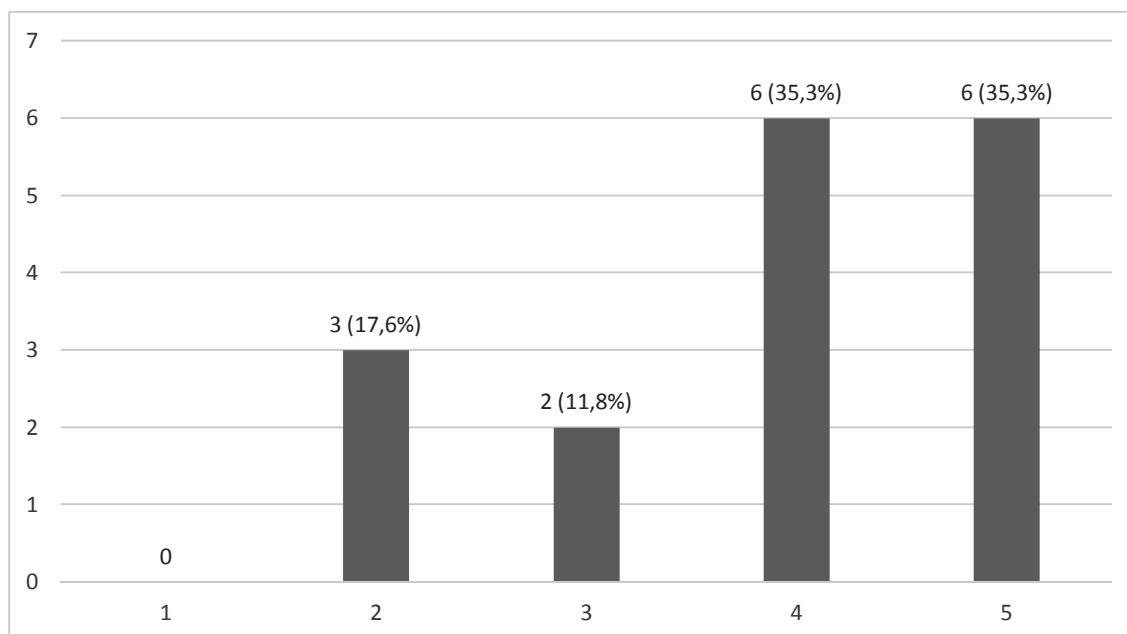
Source: Self-conducted research, February, 2020

Figure 5: Making souvenirs and promotional items with the Destination features as a priority marketing activity within the Destination, the question and the answers

Rate in the range of 1 (the lowest rating) to 5 (the highest rating) "making souvenirs and promotional items with the Destination features" as a priority marketing activity within the Destination.
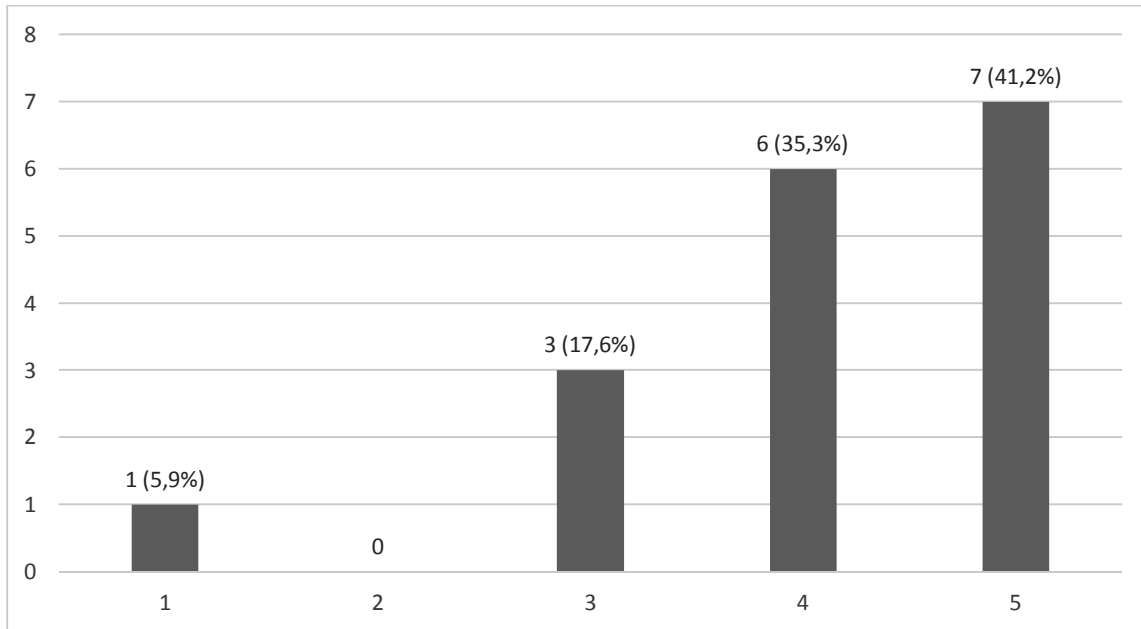
Source: Self-conducted research, February, 2020

Figure 6: Developing the Destination Strategic Marketing Plan as a priority marketing activity within the Destination, the question and the answers

Rate from the range of 1 (the lowest rating) to 5 (the highest rating) "developing the Destination Strategic Marketing Plan" as a priority marketing activity within the Destination.
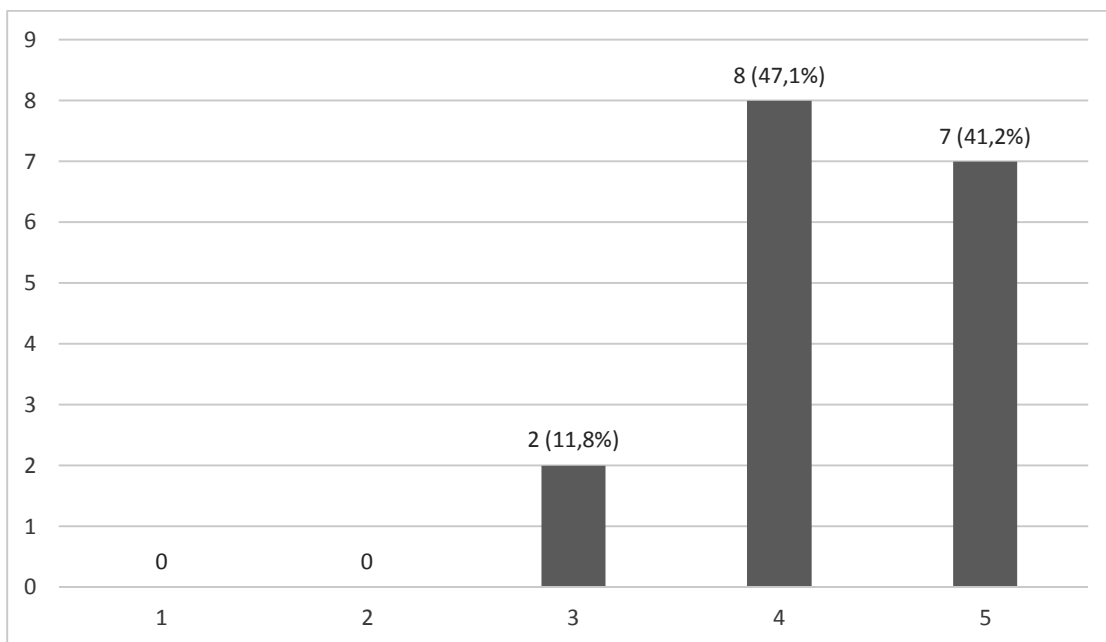
Source: Self-conducted research, February, 2020

Figure 7: Arranging of cyclotourism, thematic and educational paths as a priority marketing activity within the Destination, the question and the answers

Rate from the range of 1 (the lowest grade) to 5 (the highest grade) "arranging cyclotourism, thematic and educational paths in the Destination" as a priority marketing activity within the Destination.
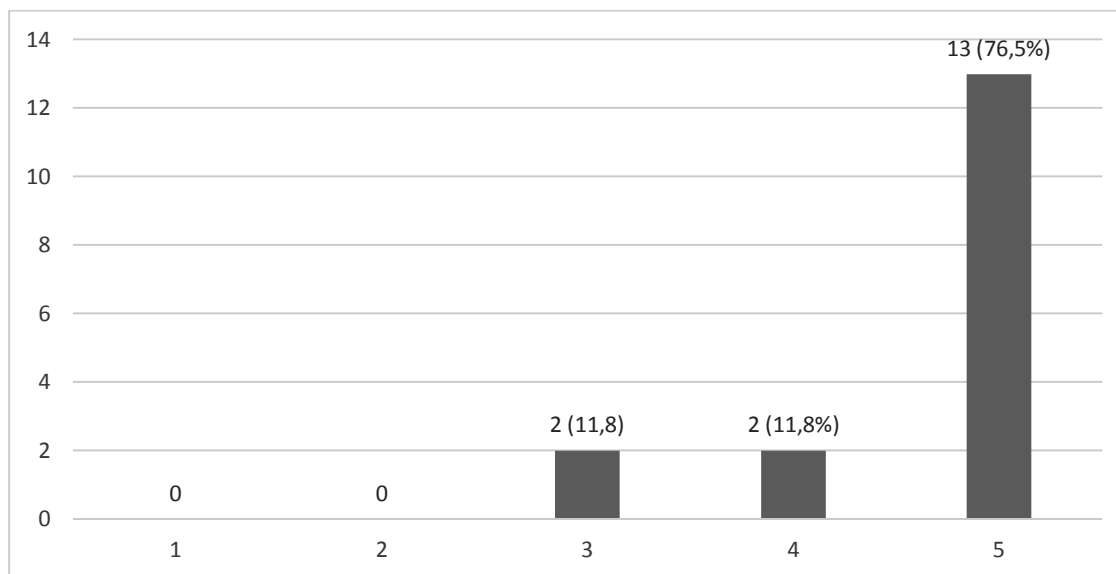
Source: Self-conducted research, February, 2020

Figure 8: Raising the quality of visitors' information (information boards, hot spots, city lights boards) as a priority marketing activity within the Destination, the question and the answers

Rate from the range of 1 (the lowest grade) to 5 (the highest grade) "raising the quality of visitors' information as a priority marketing activity within the Destination".
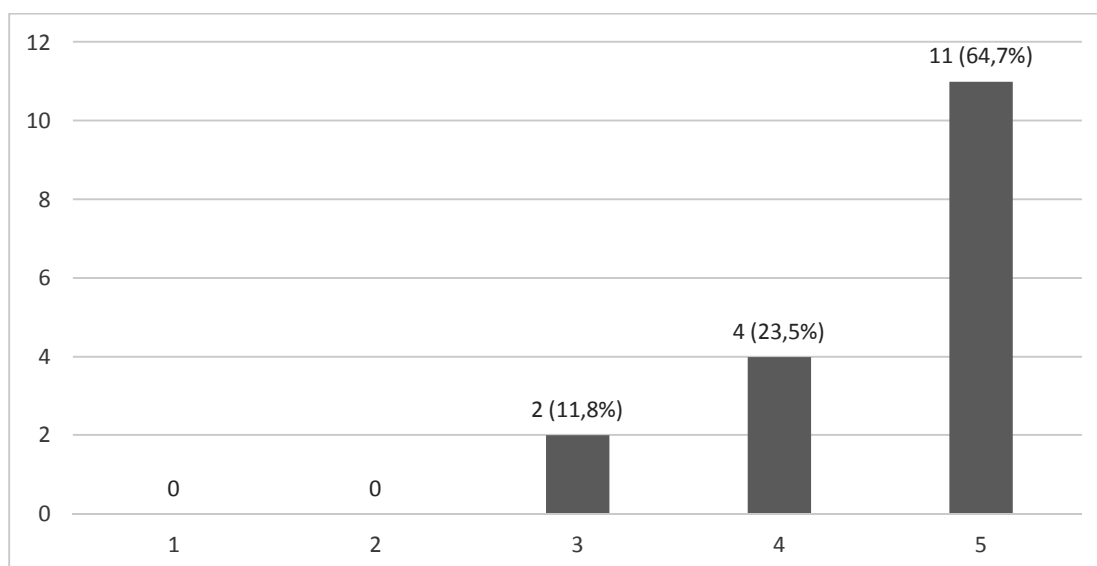
Source: Self-conducted research, February, 2020

Figure 9: Designing and installing of new tourist signposts and repairing of destroyed signposts as a priority marketing activity within the Destination, the question and the answers

Rate it from the range of 1 (the lowest grade) to 5 (the highest grade) "designing and installing of new tourist signposts and repairing of destroyed signposts" as a priority marketing activity within the Destination.
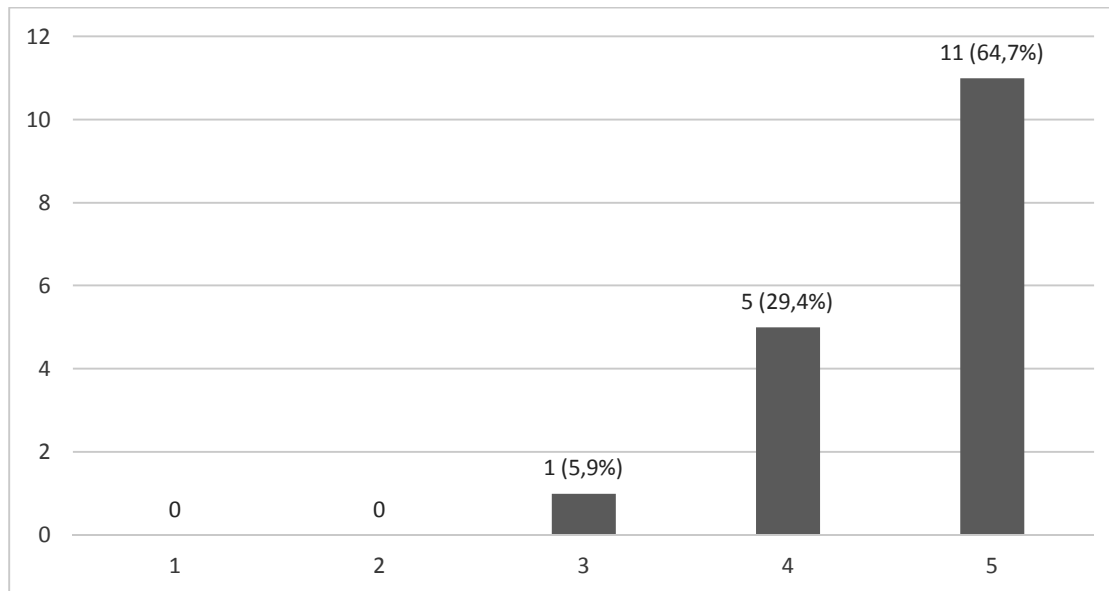
Source: Self-conducted research, February, 2020

As can be seen from the Figure 1, as many as 70.6% of the respondents fully agree with the statement that in the forthcoming period the cooperation of the tourist boards and municipalities within the Destination should take place regardless of whether the Croatian National Tourist Board will provide financial support for the implementation of joint projects. However, none of the respondents expressed the opinion that in case of not getting support from the Croatian National Tourist Board, the cooperation should be terminated. In addition, as many as 76.5% of the respondents consider as the top priority marketing activity "arranging of cyclotourism, thematic and educational paths in the Destination" (Figure 7), and 64.7% of them "online and offline advertising" (Figure 3); "raising the quality of visitors' information " (Figure 8) and "designing and installing of new tourist signposts and repairing of destroyed signposts (Figure 9). "Branding and labeling" (Figure 2) is of the highest importance for 58.8% of respondents, and "developing the Destination Strategic Marketing plan" (Figure 6) and "making souvenirs and promotional items with the Destination features" (Figure 5) for 41. 2% of respondents. 35.3% of respondents opted for „publishing promotional brochures" (Figure 4) as the priority marketing activity, primarily due to the fact that projects in this policy area were largely implemented in the past period (the promo brochure, the map and the paper bag of the Destination were published).

6. Conclusion

Tourist destinations acquire their image and position in the market based on a number of factors. While some factors are easier to change than others, such as leadership, development strategy, and destination resource management, other factors that shape a destination such as location, proximity to the market, climate and other important aspects are much harder to change (Avraham , E., Ketter, E., 2015, 347). The destination area must have an offer that will meet

the requirements of visitors of different categories in terms of age, ethnic and social background, occupation and more (Travis, AS, 1989), so there is a clear need for strategic and comprehensive destination level planning, which should be heavily relied upon cooperation and communication between stakeholders (Shtonova, I., 2011, 123).

In addition, government interventions into tourism are possible, primarily because tourism is a driver of economic development, which stimulates employment opportunities and is a labor-intensive activity, generates about 10% of world GDP, contributes to fiscal revenues, and gives the possibility of developing less developed areas through a redistributive policy based on combining tax levies and spending (Pike, S., 2008). State authorities can influence tourism in many ways, the most common being coordination related to formally institutionalized relationships between existing groups of organizations, interest groups and/or individuals, as well as legislation in the area of law enforcement that regulates tourism activity (Hall, CM, 2000).

With the new Law on Tourist Boards and Promotion of Croatian Tourism, which came into force on January, 1, 2020, the possibility of a consensual associating of local and regional tourist boards and local self-government units, if no tourist board has been established in the area of the local self-government unit, is prescribed, with the aim of joint development of the tourist product and promotion of the destination. In the wake of that, the representatives of three tourist boards and the mayors of seventeen municipalities that have settlements in the Slavonian Posavina area, and are currently networked in the tourist destination "My beautiful Slavonia near the Sava", have prepared a new cooperation agreement in accordance with the guidelines of the Ministry of Tourism. Assumig verification of the agreement by the Ministry, they will be enabled to use funds from the Associated Tourist Board Fund for tourist boards/local self-government units to realize joint marketing activities.

The research itself was conducted in such a way that the marketing activities, which should have been realized within the Destination, were determined according to the provisions of Article 32 of the Law on Tourist Boards and Promotion of Croatian Tourism which prescribed tasks of local tourist boards including the segments of products development; information and research and distribution, and according to the Rules on support for tourist boards in underdeveloped tourist areas (NN132 /17; 70/18).

The results of the research showed that the respondents primarily supported activities that were in the function of realization of projects in the field of "development and improvement of the tourist offer of the destination" (arranging of cyclotourism, thematic and educational paths; advertising; raising the quality of visitors' information; designing and installing of tourist signposts, brandig and laveling), while activities in the function of realization of projects in the field of improvement of tasks of tourist boards, such as developing the Strategic Marketing Plan, were of less priority. The results of the research also showed that the cooperation of tourist boards and municipalities in the Slavonian Posavina region, which realized joint marketing activities under the umbrella name "My beautiful Slavonia near the Sava", would continue, regardless of the financial support from the Croatian National Tourist Board, but also that the tourist boards and municipalities within the Destination were certainly expecting this support, primarily because the legal preconditions had been created for this purpose.

Although the results of the research clearly express the attitude of the respondents regarding cooperation in the segment of marketing activities, it should be noted that there were some

limitations when conducting the research. This primarily refers to the research sample, since only representatives of the tourist boards/municipalities, not representatives of the tourism sector, participated in the online research, but also to the influence of the subjective assessment of the respondents and the social desirability of the responses. Furthermore, the limitations of the research are related to the absence of pre-conducted research in the territory of Croatia, with the results that could be compared with the results of the research in question.

When it comes to open issues, further research will need to examine whether there will be an interest for further cooperation among tourist boards/minicipalities in the Destination if the Ministry of Tourism does not give its prior approval for associating and/or if the expected financial support from the Croatian National Tourist Board lacks. Furthermore, if funds from the state level are allocated, it is currently unknown in which way the allocation will be done, and how the use of funds will be justified. We expect that the same will be prescribed by the by-law of the Ministry of Tourism.

Dispate of limitations and open questions, the results of the research will assist the tourist boards and municipalities in the Destination in planning the tourist development of individual cities and municipalities in the Destination, that in the part related to a more realistic view of possible sources of financing for the implementation of tourism projects of priority common interest.

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ROLE AND POSITION OF EUROPEAN REGIONS - ECONOMIC, POLITICAL AND LEGAL ASPECT

ABSTRACT

Within the thematic whole of the conference entitled "Regions", the aim of the paper is to analyse the role and position of European regions from an economic, political and legal point of view.

Regarding research methodology, in addition to the analysis and synthesis method, the following methods were used: comparative method (comparison of constitutional position of regions in Italy and Spain), historical method (historical review of regions), inductive and deductive method and secondary research.

The scientific contribution of this paper is expressed in an interdisciplinary approach to research (economic, political and legal).

The results of the study show that European regions have a significant impact on the economic, legal and political systems of certain countries. Their positive role is reflected in the economic system in which the regions are the backbone for the economic development of the modern state, as well as in the political system, where the regions are the basis for democracy and autonomy. The role of regions in the legal system is particularly important, given that most EU legislation is implemented at local and regional level.

Key words: regions, regionalization, regional differences, regional development.

1. Introduction

The success of economic development and optimization of living conditions of citizens depends on the territorial-political organization of the state. The territory where people live forms the framework for the political, economic and social activities of its citizens. In addition, the territory has a legal function that is expressed in the fact that certain rules apply to it. The diversity of territories in the European Union represents a potential for development, where the characteristic identities of local and regional authorities may be important. The effective use of European territory and resources is a key element of territorial cohesion, which can certainly have a contribution to the development of economies and infrastructure. This paper assumes that the regions represent the most desirable economic development units; they

implement the legislation of the nation state and the European Union, and represent important units in the political context of a particular country.

The paper consists of several interconnected parts. The introductory considerations are followed by a general overview of regions. The analysis of the European Union's focus on regions is addressed in the second part. This is followed by an analysis of the role and position of the regions from an economic point of view. The role and position of the regions from a political point of view is addressed in the third part. As part of the whole referring to the role and position of the regions, the legal and constitutional position of the Italian and Spanish regions will be compared.

2. Regions in General

The Community Charter for Regionalization defines a region as " a territory which constitutes, from a geographical point of view, a clear-cut entity or a similar grouping of territories where there is continuity and whose population possesses certain shared features and wishes to safeguard the resulting specific identity and to develop it with the object of stimulating cultural, social and economic progress " (Community Charter for Regionalization, Article 1). The term region is generally used for areas smaller than nation states, but larger than local units.

On the one hand, a region has a set of characteristics that link it to the whole of the country, and on the other hand, a set of (other) characteristics that make it specific. Different regional organizing practices are present in European countries. The status of regions differs not only from state to state, but within one state, there are regions with different constitutional positions and competencies.

3. European Union's Focus on Regions

The European Union's focus towards regions and regional structures has developed in parallel with the development of European cohesion policy. This was particularly evident with the signing of the Single European Act of 1986, when cohesion policy was also established in primary EU law, with the establishment of the internal market.

The Treaty of Lisbon, comprising of the Treaty on European Union (hereinafter referred to as the TEU) and the Treaty on the Functioning of the European Union (hereinafter referred to as the TFEU), strengthened the position of regional self-government and regions in the EU political system (Consolidated versions of the Treaty on European Union and the Treaty on the Functioning, 2016). In the above-mentioned basic act of the European Union and its appendices, regions and regional self-government are of particular importance and are mentioned in different contexts, in particular:

- the general principle of local and regional self-government in the European context is formally recognized for the first time (Article 4, paragraph 2 of the TEU),
- extension of the principle of subsidiarity to local and regional level (Article 5, paragraph 3 of the TEU),
- ensuring harmonious development by reducing the differences existing between the various regions and the backwardness of the less favoured regions (TFEU preamble),
- inequalities between the development levels of the various regions, which the Union aims at reducing (Article 174, paragraph 2 of the TFEU),
- different situations in different regions (Article 191, paragraph 2 of the TFEU),
- the economic and social development of the Union as a whole and the balanced development of its regions (Article 191, paragraph 3 of the TFEU), and
- projects for developing less-developed regions (Article 309, paragraph 1 of the TFEU), etc.

3.1. European Union Cohesion Policy

According to Barić, cohesion, i.e. regional policy of the European Union, is an investment policy aimed at increasing employment and competitiveness, increasing economic growth, improving quality of life and sustainable growth (Barić, 2016, 339).

The fundamental objective of the concept of European cohesion policy, i.e. economic, social and territorial cohesion, is laid down in Article 174 of the Treaty on the Functioning of the European Union, according to which the EU "in order to promote its overall harmonious development, the Union shall develop and pursue its actions leading to the strengthening of its economic, social and territorial cohesion". In order to achieve this objective, "in particular, the Union shall aim at reducing disparities between the levels of development of the various regions and the backwardness of the least favoured regions". Among the mentioned regions, "particular attention shall be paid to rural areas, areas affected by industrial transition, and regions which suffer from severe and permanent natural or demographic handicaps such as the northernmost regions with very low population density and island, cross- border and mountain regions." Under this treaty provision, cohesion policy is a solidarity policy and a key framework on the basis of which the EU can address the challenges of regional development (TFEU, Article 174, paragraphs 1-3).

European Structural and Investment Funds are one of the EU's fundamental instruments for implementing cohesion policy. In this regard, the results of the Mari Carmen Puigcerver-Peñalver research show that the Structural Funds have positively influenced the growth process of the regions. For example, their impact was much stronger during the first programming period than during the second (Puigcerver-Penalver, 179).

Bachtler and McMaster, in their research emphasized that regions (will) have an important role to play in the development and delivery of Structural Funds programmes. These arguments are situated within the new regionalism debates on the importance of regional and local actors engaging with, and advancing, economic development agendas, and the influence of the EU on regional institutional development. The scope for Structural Funds to develop the role of regions and encourage bottom-up, regional involvement in promoting economic development is based on several factors, linked to legitimacy, institution building, and capacity development (Bachtler, McMaster, 2007, 420). Other author share a similar opinion and believe that EU regional support through the structural funds has a significant and positive impact on the growth performance on European regions and, hence, contributes to greater equality in productivity and income in Europe (Cappelen, Castellacci, Fagerberg, Verspagen, 2003, 640).

The system of local and regional self-government, in addition to the central state level, in European countries forms an important component of the framework for managing regional development policy and largely determines the solutions regulated by regional development legislation.

Regional self-government is closely linked to cohesion policy. The fact is that cohesion policy contributes to strengthening the role of local and regional authorities at the EU level and in particular by extending cohesion to the territorial component. In this connection, Siniša Rodin points out: "It is obvious that the local and regional authorities of the Member States had a strong desire and need to emphasize the importance of territorial cohesion in the very title of the chapter (Rodin, Goldner Lang, 23). Similar is the view of Anamarija Musa, according to which "One of the most significant factors in the process of Europeanization in relation to subnational units is cohesion policy, which is aimed at reducing social and economic disparities between individual regions" (Musa, 2011, 109).

3.2. European Criteria for Regional Division of EU Member States into NUTS Units

In the European Union, there is an obligation to identify statistical territorial units according to the EU NUTS classification ("Nomenclature of Territorial Units for Statistics") for the identification and classification of spatial units for official statistics in the EU Member States, with the aim of comparing its regions. This is a part of the *acquis communautaire* that the candidate country must accept before accession. The main objective of the European Union is to identify less developed regions and reduce the gap between rich and poor regions.

The classification of statistical regions shall be determined in accordance with the NUTS methodology laid down in Regulation (EC) No 1059/2003 of the European Parliament and of the Council establishing a common classification of territorial units for statistics - NUTS (Regulation (EC) No 1059/2003) (amended by Commission Regulation (EC) No 1888/2005, Commission Regulation (EC) No 105/2007 and Commission Regulation (EU) No 31/2011 This Regulation is binding in its entirety and directly applicable in all Member States. All Member States of the European Union must accept the classification. NUTS classification divides a country into first-level NUTS regions, which are further subdivided into second-level NUTS regions, which are subdivided into third-level NUTS regions. Two further (local) levels are defined in accordance with NUTS principles, with only the fifth level defined in all Member States and generally corresponds to the term "municipalities." The fourth level is rarely defined and is adopted only by individual countries, thus making NUTS a five-level hierarchical classification (three regional and two local levels). In accordance with the already mentioned Regulation (EC), No. 1059/2003, the following criteria apply:

1) "Existing administrative units within the Member States shall constitute the first criterion used for the definition of territorial units. To this end, 'administrative unit' shall mean a geographical area with an administrative authority that has the power to take administrative or policy decisions for that area within the legal and institutional framework of the Member State." (Article 3, paragraph 1). This means that the first criterion for determining regions is the existing legal and administrative division of the territory of a particular Member State.

2) One of the main classification criteria is "population per region". For the purpose of achieving the appropriate NUTS level into which a class of administrative units in a Member State is to be classified, the average size of this class of administrative units in a Member State lies within the following population thresholds:
NUTS 1 – a minimum of 3,000,000 to a maximum of 7,000,000 inhabitants,
NUTS 2 – a minimum of 800,000 to a maximum of 3,000,000 inhabitants,
NUTS 3 – a minimum of 150,000 to a maximum of 800,000 inhabitants (Article 3, paragraph 2).

3) If there is no appropriate range for a given NUTS level in a Member State, in accordance with the population numbers listed above, this NUTS level is created by "adding up the corresponding number of existing smaller adjacent administrative units". This summation takes into account relevant benchmarks such as geographical, socio-economic, historical, cultural or environmental (Article 3, paragraph 5). This means that if a Member State does not have appropriate administrative units according to a certain number of population, statistical regions are formed by adding up several smaller administrative units.

Table 1: Nomenclature of Territorial Units for Statistics

Countries		NUTS 1		NUTS 2		NUTS 3	
Member State	**27**		**92**		**244**		**1215**
Austria	AT	Groups of states	3	States	9	Groups of districts	35
Belgium	BE	Regions	3	Provinces (+ Brussels)	11	Arrondissements (Verviers split into two)	44
Bulgaria	BG	Regions	2	Planning regions	6	Oblasts	28
Cyprus	CY	—	1	—	1	—	1
Czech Republic	CZ	—	1	Statistical areas	8	Administrative regions	14
Germany	DE	States (*Bundesland*)	16	Government regions (*Regierungbezirk*) (or equivalent)	39	Districts (*Kreis*)	429
Denmark	DK	—	1	Regions (*Regioner*)	5	Provinces (*Landsdele*)	11
Estonia	EE	—	1	—	1	Groups of counties	5
Finland	FI	Mainland Finland, Åland	2	Large areas (*Suuralueet* / *Storområden*)	5	Regions (*Maakunnat* / *Landskap*)	19
France	FR	Z.E.A.T. + DOM	9	Regions + DOM	27	Departments + DOM	101
Greece	EL	Groups of development regions	4	Regions	13	Prefectures	51
Hungary	HU	Statistical large regions (*statisztikai nagyrégiók*)	3	Planning and statistical regions (*tervezési-statisztikai régió*)	8	Counties (*megye*) + Budapest	20
Croatia	HR	—	1	Regions	2	Counties (*županije*) + Zagreb	21
Ireland	IE	—	1	Regional Assemblies	3	Regional Authorities	8
Italy	IT	Groups of regions	5	Regions (Trentino-Alto Adige split into two)	21	Provinces	110
Lithuania	LT	—	1	—	1	Counties	10
Luxembourg	LU	—	1	—	1	—	1
Latvia	LV	—	1	—	1	Statistical regions	6
Malta	MT	—	1	—	1	Islands	2
Netherlands	NL	Groups of provinces	4	Provinces	12	COROP regions	40
Poland	PL	*Makroregiony*	7	*Regiony*	17	*Podregiony*	73
Portugal	PT	Continent + Azores + Madeira	3	Coordination and development regions + autonomous regions	7	Groups of municipalities	25
Romania	RO	Macroregions	4	Regions	8	Counties + Bucharest	42

Countries		NUTS 1		NUTS 2		NUTS 3	
Member State	**27**		**92**		**244**		**121 5**
Spain	ES	Groups of autonomous communities	7	17 Autonomous communities and 2 autonomous cities	19	Provinces + Islands + Ceuta and Melilla	59
Sweden	SE	Regions (*Grupper av riksområden*)	3	National Areas (*Riksområde*)	8	Counties (*Län*)	21
Slovenia	SI	—	1	Macroregions	2	Statistical regions	12
Slovakia	SK	—	1	Oblasts	4	Regions (*Kraje*)	8

Source: Nomenclature of Territorial Units for Statistics, URL

Table 1 shows how the NUTS classification in the European Union covers different types of regions:

1) Political (self-governing) regions (Italy, Spain, France, Denmark, Poland etc.) in which the right to regional self-government is realized through the direct choice of their representative and executive bodies and other elements (finance, jobs, legal personality, etc.);

2) Statistical regions (Slovenia, Croatia, Hungary etc.) that aim to facilitate and harmonize the collection of statistical data on the basis of which different public policies can be conducted. They do not have their own bodies or institutions, but serve to gather information about the elements and the stage of development. The statistical regions agree with Eurostat, the statistical agency of the European Union.

3) Administrative regions (Federal Republic of Germany) have no self-governing elements and serve to better carry out the affairs of the central government in the entire state territory, and

4) Planning (development) regions (Greece, Romania, Bulgaria) – a type of administrative regions that are established mainly to stimulate and coordinate development activities. These regions usually have certain institutions, but without original political legitimacy. This implies that their members were not elected in special regional elections.

3.3. European Division of Regions by Level of Development

The categorization of regions is done according to their level of development. The classification of regions according to one of the three categories of regions is determined on the basis of the ratio of GDP per capita of each region, measured by purchasing power parity and calculated on the basis of Union data for a given period.

Regulation (EU) No 1095/2010 Regulation (EC) No 1303/2013 of the European Parliament and of the Council of 17 December 2013 laying down common provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund, the European Agricultural Fund for Rural Development and the European Maritime and Fisheries Fund and laying down general provisions on the European the Regional Development Fund, the European Social Fund, the Cohesion Fund and the European Maritime and Fisheries Fund, and repealing Council Regulation (EC) No 1782/2003; Regulation (EC) No 1083/2006 subdivides the regions by development level into: (a) less developed regions whose GDP per capita is less than 75% of the average GDP of EU-27 countries; (b) transition regions, with GDP per capita between 75% and 90% of average GDP of EU-27 countries; 27 and (c) more developed regions, where GDP per capita is more than 90% of the average GDP of EU-27 countries. The allocation and concentration of European cohesion policy funds depends on the specific needs of individual regions. Thus, different interventions and different amounts of EU assistance are foreseen for different types of regions (Regulation (EU) No 1303/2013, Article 90, paragraphs 2-6). It is

important to emphasize that this Regulation entitles all previously mentioned regions corresponding to the NUTS 2 level to assistance from the ESI funds.

Main findings are that personal income matters more in poor regions than in rich regions, a pattern that still holds for regions within the same country. Being unemployed is negatively associated with life satisfaction even after controlled for income variation. Living in high unemployment regions does not alleviate the unhappiness of being out of work. After controlling for individual characteristics and modelling interactions, regional differences in life satisfaction still remain, confirming that regional dimension is relevant for life satisfaction (Grazia Pittau, Zelli, Gelman, 2010, 339).

4. Role and Position of Regions from an Economic Point of View

The term "region" is often associated with the term "development area", which represents a region or an area subject to the implementation of a specific national policy (regional policy). There are different forms of government intervention, from public and private sector investment subsidies to various forms of selective policies and discretionary assistance (Čavrak, URL). Defining the development areas was originally motivated by the reaction to the problem of uneven development of each country.

In the economic system, regions are the backbone for the economic development of the modern state. This statement is confirmed by the Declaration on Regionalism in Europe, which emphasizes that "Regions are an essential and irreplaceable element of European development and integration" (Declaration on Regionalism in Europe, 1996, Article 3). This means that the region is a suitable development and measurement area for the European Union.

In the context of development and economic cohesion, the previous statement is also confirmed by the European Parliament in its Resolution on Regional Policy and the Role of the Regions of 1988, which states that "the most appropriate geographical and institutional level for the implementation of regional policy – NUTS 2 is the regional level (European Parliament Resolution on Community regional policy and role of the regions, 1998, point 18). The NUTS 2 level is the most appropriate level for implementing a balanced regional development. For example, NUTS 2 regions include the following: Italian regions, Spanish autonomous communities, French regions, Danish regions, Polish regions "Województwa", Dutch provinces, German administrative regions "Regierungsbezirke", Austrian federal units "Länder", Belgian provinces, Croatian statistical regions etc. From a development perspective, it should be recalled that NUTS Level 2 regions are the largest project generators in the European Union. The importance of NUTS 2 regions as the most appropriate level has been proven for the following reason:

- the population (from 800,000 to 3,000,000) in the area is sufficiently large to allow adequate economic policy in the setting up and management of major infrastructure and services,
- this is the level closest to existing regional structures in many Member States,
- at this level, the quality of available statistics required is the best.

The EU's objectives defined in the Europe 2020 Strategy for smart, sustainable and inclusive growth can only be achieved if the territorial dimension of the strategy is taken into account, as the opportunities for development of different regions are different (Territorial Agenda of the European Union 2020, 4).

From an economic point of view, regions are increasingly interdependent, especially when addressing common problems (for example migrations, climate change, COVID 19 and various crisis situations). In doing so, territorial cooperation between European regions provides a framework for finding solutions to common problems.

4.1. Regional Development and its Indicators

In parallel with the development of European systems of local and regional self-government, important questions are raised for the successful management of regional development policy. Regional development as part of overall development, according to Zvonimir Lauc, is a broad term and can be seen as "a general effort to reduce regional inequalities through the support (employment and prosperity) of economic activity in the regions" (Lauc, 2011, 420). It is a process of sustainable economic and social development of a particular region, which is achieved through recognizing, stimulating and managing the development potential of the area. It aims at making the best use of the territorial potential of European regions. In doing so, it should be borne in mind that the opportunities for the development of individual regions are different. Regional development is one of the essential segments of overall national development, so it must be balanced.

There are several indicators of regional development: regional competitiveness index, development index and economic strength index. The model of the regional competitiveness index is based on statistical and perceptual pillars of competitiveness, which are divided into environment and business sector. It is used to compare the competitiveness between two or more regions. This means that a region has an absolute advantage in producing something good if it consumes less labour than other regions. The Regional Competitiveness Index is based on the definitions used by the European Union, according to which regional competitiveness implies the ability to create an attractive and sustainable business and living environment (EU Regional Competitiveness Index RCI 2013, 4). This includes the ability of a particular region to provide an attractive and sustainable environment for the business of the enterprise and the work and life of its residents. The Development Index is a composite indicator of measuring the level of development of regions over a given period, and usually contains the following information: average per capita income, average original per capita income, average unemployment rate, general population movement, population level of education (tertiary education) and an aging index (Decree on the Index Development, 2017, Article 2). Economic Strength Index is a composite indicator of the positioning of regions. It is calculated as the sum of weighted basic economic indicators in three-year averages and demographic projections to measure the degree of economic strength and economic potential of regions.

4.2. Impact of Regional Disparities on Economic Development

Regions are emerging as a generator of solutions to development disparities at European and national level. Regional disparities, in addition to increasing opportunity costs in less developed parts of the country, and in developed centres excess demand for development resources increases, which increases the overall costs of such a development model and reduces the national competitiveness of a country. Less developed regions impede the overall economic development of a particular country and determine significantly different living conditions and opportunities on the basis of belonging to a particular part of the national territory. It is a fact that regional inequalities are an economic problem. The underdeveloped areas are characterized by the following: a decline in economic development and growth, a decrease in market activities, a decrease in competitiveness, an increase in the model of development and a decrease in financial capacity.

Rajko Odobaša believes that regional development disparities and the further lag of certain regions and local self-government units are among the problems that most seriously burden the present and overall future development of the economy and society of a country. Although regional development disparities are undoubtedly the hardest hit regions with lower levels of development, they also suffer from more developed areas because of their backwardness, as

they are exposed to numerous economic, infrastructural, social, political, educational, health and other expenditures that burden them with income and weak development potentials (Odobaša, 2007, 163). Regional differences can lead to negative trends that, in the long run, could reduce the growth of those areas that are currently recording positive development indicators. The fact is that the economic development of successful ones is being challenged because the less developed environment is hampering them from taking advantage of all the potential gains from the growing economies of scale, but also in transforming heterogeneous comparative advantages. The price of this situation is also paid by those regions that achieve above average rates of economic growth and development. It is not uncommon that developed regions pay for the underdeveloped (Bavaria, Catalonia, and Flanders, as well as the former Yugoslav republics: Slovenia and Croatia).

5. Role and Position of the Regions from Political Point of View

By territorial division into local and regional self-government units, a large number of smaller "constitutional" (statutory) and political systems based on them are created in the country (Smerdel, Sokol, 2009, 404). Thus, one can speak of territorial - political systems (Brunčić, 2010, 43).

Local and regional units are part of a broader social and state system and are holders of public authority at local and regional level. Therefore, in the political constitution, the regions are the basis for democracy and autonomy. This is confirmed by the Declaration on Regionalism in Europe, emphasizing: "Regions, states and autonomous communities are above all pillars of democracy. They strongly support cultural diversity in Europe and are major partners in socio-economic development" (Declaration on Regionalism in Europe, 1996).

The policy of each country's territorial organization, which includes the distribution of political power to regional and local communities for the sake of equitable economic development and protection of individual and collective rights, is a key value of any democratic society (Sadiković, 2012, 176).

Political regions are regions in terms of elected regional authorities and have emerged as an expression of political will. They are the place where certain levels of government exercise their powers, especially with regard to regional policy. According to Vedran Đulabić, political regions are territorial units of the middle order that encompass an area between the local and state levels where there are a large number of local communities connected by regional identity and a special institutional structure with a greater or lesser degree of political autonomy. Among the main and most important elements of the existence of a political region are autonomous political processes, manifested in the existence of democratic, secret and multilateral elections for representative and / or executive bodies of the region, legal personality, own taxes and other autonomous sources of funding, a wide range of affairs within the scope of self-government, limitation of state control to the control of constitutionality and legality, possibilities for cooperation with other self-governing units at home and abroad (cross-border and interregional cooperation), etc. A special feature of the political region is the possibility of normative action, which is manifested in regionalized countries through the powers of enacting regional laws, and in decentralized countries in passing other general acts. When regions have the ability to legislate, there are usually several categories of so-called regional laws. These may be law enforcement laws passed by the central government, but without the possibility of elaborating them. Then, the laws that elaborate the laws passed by the central level and the laws which regulate, in the framework of the general principle of constitutionality and legality, completely different issues from the self-governing scope of the region (Đulabić, 2009, 912). The ideal requirement of a territorial division of a country is the correspondence of political regions with the statistical division, but very often this is not the case, as some political regions do not meet

the numerical criteria of Eurostat (for example some Polish regions). Thus, some countries, such as the Republic of Croatia, have parallel territorial units (political and statistical). Examples of coincidence of NUTS Level 2 political regions with democratically elected authorities exist in the following countries: Italy (NUTS Level 2 regions), Spain (NUTS Level 2 regions), France (NUTS Level 2 regions), Denmark (NUTS Level 2 regions), Poland (Województwa NUTS Level 2), the Netherlands (NUTS Level 2 Provinces), Belgium (NUTS Level 2 Provinces), Portugal (2 NUTS Level 2 Self-governing Regions) and Finland (1 Self-Governing Region).

6. Role and Position of the Regions from Legal Point of View

According to Arsen Bačić, in terms of constitutional law as well as international public law, the necessary elements of each state are political power or sovereignty, population, population or people and territory (Bačić, 2012, 97). The constitutional and legal framework of the regions guarantees an important role in the provision of public services to citizens, which is the essence of the self-governing scope of local and regional units. Establishment of regions can be performed via:
 - the constitution (for example Italy, Spain, Belgium), the constitution guarantees in principle the right to regional self-government, the right to regional organization and establishes a special procedure by which regions are established, and
- law (for example France, Poland, Denmark).

When it comes to the territorial effect of a regulation, that regulation regulates certain social relations and produces legal effects within the specific territory for which it was enacted. The importance of the role of the regions is reflected in the legal system. According to Dowling, "The sub-national level is becoming an increasingly important level of governance in nation-states, and its impact has been significantly strengthened given the European context. It should be emphasized here that approximately three quarters of all European legislation is implemented at the local and regional level of the Member States" (Dowling, 2003, 3).
 The position of the regions is essential in the overall system of organization of government in European countries. Constitutional and legal provisions give the regions powers of jurisdiction in certain public affairs. In this respect, European regions play an important role in providing and safeguarding public services at regional level. Such services are crucial for maintaining and developing territorial cohesion and for the advancement of the regional economy. As a typical competence of the region, the Declaration on Regionalism in Europe, Article 3 states the following: regional economic policy, regional planning, construction and housing policy, telecommunications and transport infrastructure, energy and ecology, agriculture and fisheries, education at all levels, faculties and research, culture and media, public health, tourism, leisure and sports, police and public order (Declaration on Regionalism in Europe, 1996, Article 3).

6.1. Constitutional Position of Italian Regions

The idea of regionalization in Italy came to prominence in 1947, when the Italian Constitution established twenty regions, as separate autonomous organizations with a considerable degree of autonomy. Accordingly, the Constitution establishes a vertical division of powers in the form of regionalism. Italy thus became the first European country to promote regionalization at the constitutional level.
 Chapter V of the Constitution of the Republic of Italy refers to regions, provinces and municipalities as constituent parts of the state structure and consists of 19 articles (114-133). The territorial organization of Italy under Article 114 (1) and (2) of the Italian Constitution is

organized into four levels of government, which are municipalities and cities, provinces, regions and states. Regions are self-governing units with their own statutes, powers and functions in accordance with the principles defined in the Constitution. The position of the Italian regions is determined by the Constitution, as follows:

- are recognized at the constitutional level as a constitutional category (Article 114, paragraph 1 of the Constitution),
- independently determine their own revenues and taxes (Article 119, paragraph 2),
- they have been accorded a special status of autonomy with respect to the central government, with broader competences than other regions within a given state (Article 116, paragraph 1),
- have the legislative power to undertake all activities not expressly stated to fall within the legislative scope of the State (Article 117 (4)),
- participate in the central government through representation in the upper house (Article 57),
- have their own bodies: regional council as regional legislative body, regional government and the president of the region (Article 121),
- represent political communities, within the meaning of elected subnational authorities (Article 122),
- represent territorial-political communities with legislative powers (Article 117, paragraph 1),
- have their basic acts -statutes (Article 123, paragraph 1), and
- have the right to self-government (Article 114, paragraph 2),
- their inhabitants have the status of national minorities, that is, they represent a people different in language, culture and other characteristics from the majority people in their respective country (Costituzione della Repubblica Italiana, 1948) Italian regions are not symmetrical. The Constitution distinguishes between 15 regular and 5 special status regions. Fifteen regular regions were formed, taking into account historical and geographical-economic criteria. Article 116 (1) of the Constitution constitutes the constitutional basis for the special status of autonomy of minority regions in Italy. The aforementioned constitutional provision stipulates that the special status of autonomy on the basis of special statutes adopted by constitutional law is granted to the following regions: Friuli-Venezia Giulia, Trentino-South Tyrol, Valle d'Aosta, Sardinia and Sicily.

6.2. Constitutional Position of Spanish Regions

Chapter VIII of the 1978 Constitution of Spain, which consists of 22 articles (137-158), applies to regions. The constitutional basis of the territorial division of Spain is set out in Article 137 (1) of the Constitution, according to which the Spanish State Territory consists of: autonomous communities (regions), provinces and municipalities. The said Chapter of the Constitution is divided into three sections:

- the first part (Articles 137-139) contains general principles,
- the second part, which also contains three articles (140-142), deals with local self-government and sets out principles relating to municipalities and provinces, and
- the third section, which contains 16 articles (143-158), is entitled "Autonomous Communities" and, among other things, addresses the specific status of these communities. All of these units enjoy the autonomy to manage their personal interests.

The constitutional position of the Spanish Autonomous Communities (including minority regions) is characterized by:
- are recognized at the constitutional level as a constitutional category (Article 137 of the Constitution),
- have a constitutional right to autonomy (Article 2), particularly financial autonomy (Article 156) and tax autonomy (Article 157),

- on the basis of the constitution, they have been accorded a special status of autonomy with respect to the central government, with broader competences than other regions within a given state (Article 151, paragraph 1),
- have constitutionally defined powers (Article 148),
- in accordance with the principle of subsidiarity, competences not listed in the Constitution belong to autonomous communities on the basis of their statutes (Article 149, paragraph 3),
- participate in the central government through representation in the upper house (Article 69),
- have their own bodies (legislative assembly, government council with executive and administrative functions, the president and the High Court of Justice (Articles 152 and 154),
- represent political communities, within the meaning of elected subnational authorities (Article 152),
- represent territorial-political communities with legislative powers (Article 152),
- have their basic acts - statutes (Article 146, 147),
- have the right to self-government (Article 148),
- some regions have a special status, since most of their population have the status of national minorities, that is, they represent a people different in language, culture and other characteristics from the majority people in their respective country (Constitución Española, 1978).

7. Conclusion

The European Union's focus on the regions has been current since the entry into force of the Single European Act of 1986, when European cohesion policy was first instituted in the EU's primary system. This policy is aimed at the territory (all regions and EU countries) in order to stimulate economic growth and improve the quality of life of the people there. Cohesion policy is based on a set of principles aimed at harmonious, balanced, effective and sustainable territorial development. It provides equal opportunities for citizens and businesses, regardless of their place of residence, for the best possible exploitation of their territorial potential. This policy reinforces the principle of solidarity in order to promote convergence between the economies of the better-developed territories and those whose development is lagging behind, emphasizing that development opportunities are best shaped in accordance with the specificities of the area. In this context, the regions represent the key institutions of European cohesion policy. In addition, regions have the opportunity to participate in EU policy-making. Therefore, the EU has become a framework for the balanced development of all its regions. The Treaty of Lisbon has further strengthened the position of regional self-government and regions in the EU political system.

European regions have an economic, legal and political impact on the system within nation states. Regarding the economic system, the regions are the backbone for the economic development of the modern state. The diversity of territories and identities of European regions represents a significant potential for regional development that contributes to the mobilization of their different potentials. In this context, regional interdependencies are becoming increasingly important, which requires cooperation, networking, and integration between different European regions. In doing so, territories with shared potentials or challenges can work together to find common solutions and use their territorial potentials through the exchange of experiences. Territories with different potentials can join forces, explore their comparative advantages, and jointly create additional development potential. In the political system, the regions are the basis for democracy and autonomy. The role of regions in the legal system is particularly evidenced by the fact that most EU legislation is implemented at local and regional level.

Comparison of the concept of constitutional position of regions in regional states (Spain and Italy) characterized by strong territorial autonomy of regions and broad legislative powers. Their emergence was a democratic response to the separatist aspirations of particular parts of these states whose proportions threatened their territorial integrity (in both cases after the collapse of authoritarian / totalitarian systems – in the case of Italy after the Second World War and in Spain after Franco). On this basis, they were accorded a special status of autonomy in relation to the central government, with broader competences than other regions.

The authors believe that organized regions with elected subnational governments are better solutions compared to statistical regions. They are better suited to use European funds effectively and to address development problems. Therefore, the authors propose the introduction of four or five such regions in Croatia. A smaller number of larger, personally and financially stronger regional units (rather than counties) are required in Croatia in order to conduct quality public affairs and promote socio-economic development. Such regional units would form the backbone of the regional development policy system in the future.

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ENVIRONMENTAL LAW TECHNIQUES – EASTERN CROATIA VERSUS GLOBAL STANDARDS

ABSTRACT

Protection of nature and human environment is mentioned in the highest values of the Croatian constitutional order. Likewise, Article 70 of the Constitution of the Republic of Croatia prescribes the duty to respect nature and the human environment. The purpose of environmental protection is to establish minimum standards for an individual and / or society to exist permanently on Earth. For this purpose, it is necessary to build a quality legal system - from local, regional to national, or global level. Numerous studies, strategies, principles, measures have been developed in all legal systems to improve the level of environmental protection. The author believes that environmental techniques, that make up the operational part of legal principles, have not been sufficiently addressed. At European level there are, to a considerable extent, codified legal systems. However, the problem arises when crossing the borders of the European Union - the problem of world scale has become Amazonian fires that need to be remedied by appropriate measures: preventive, implementation, aid measures. Two hypotheses have been put forward: Member States are uniform in their measures and the reasons for the disaster are undefined rules, measures and legal protection. In order to confirm or refute the hypotheses, the following methods were used: comparative, normativistic, historical and inductive and deductive methods.

Key words: *environmental law techniques, legal protection, Amazon fires, EU, sustainable environment.*

1. Introduction

The title of the paper is symbolic. So far, the conference has been called the Economy of Eastern Croatia, therefore the title of the paper is *Slavonia versus Global Standards*. On the other hand, the Amazon rainforest was taken as an example because of its significant importance to the whole world. The paper will deal with European-Croatian documents versus international documents. Two theses are addressed: Member States are uniform in measures and causes of Amazonian fires are unequal rules. The paper is divided into four parts. After the Introduction, fhe following is the second part of the paper that defines the concept of sustainable development through meaningful documents. The importance of sustainable development for the individual and the social environment is addressed. The next subtitle refers to legal instruments for environmental protection. Legal instruments are a key element in maintaining sustainability. The last part deals with concluding considerations.

2. The importance of international sustainability

Third generation rights are a "newer content" rights- In the early 1970s, the right of the environment began to be debated. The term was first defined by Estonian scientist Jakob von Uexküll. Since then, cooperation has begun at national international levels in the field of environmental protection.

International environmental law is a branch of public international law with the aim of preserving the environment internationally. The goal is to control natural resources, to "sustain" sustainable development. „International environmental law covers topics such as biodiversity, climate change, ozone depletion, toxic and hazardous substances, desertification, marine resources, and the quality of air, land and water"[1]. The purpose of international agreements is to oblige states to use specific instruments to achieve the goal - the only objective in environmental law is sustainable development[2]. According to the Vienna Convention on the Law of Treaties, Article 26 lays down an obligation to comply with international agreements / treaties („Every treaty in force is binding upon the parties to it and must be performed by them in good faith"[3]). Other documents also recognized the importance of acting internationally. Eg. Article 21 The Stockholm Declaration is important because it prescribes a dual function: the right and responsibility of a Member State to act within its borders and to exploit natural resources and its responsibility towards other states - not to cause harm to other states. Awakening this awareness is the beginning of the signing of numerous agreements at the international level. The same principle is discussed in other conventions. In the Rio Declaration (1992), Principle 2 reiterated the content: it allows Member States to exploit natural resources while at the same time being obliged to take care not to harm other states.

Initially, international agreements focused on specific areas and later international agreements focused on the pursuit of sustainable development. The following table shows the development of international treaties in the field of environmental protection.

Table 1: The development of international treaties in the field of environmental protection
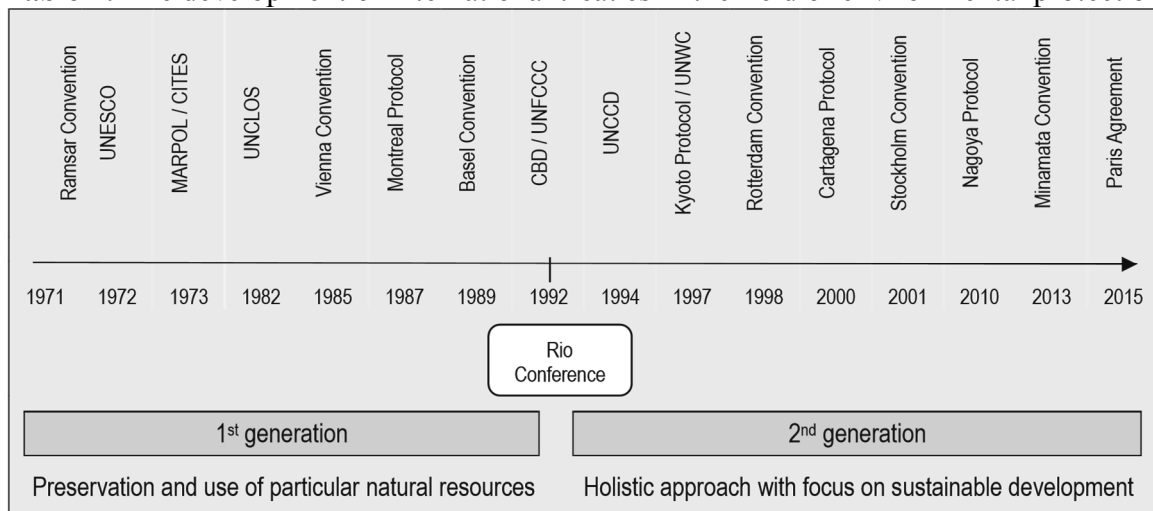
Source: Ministry of Natural Resources and Environment, Department of Legal Affairs, International Environmental Law, Hanoi, May, 2017.,p.p. 13.

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[1] Ministry of Natural Resources and Environment, Department of Legal Affairs, International Environmental Law, Hanoi, May, 2017., str. 11;https://wedocs.unep.org/bitstream/handle/20.500.11822/21491/MEA-handbook-Vietnam.pdf?sequence=1&isAllowed=y; date of access: 13.04.2020.

[2] Agreements can have different terms: conventions, treaties, agreements and protocols.

[3] Vienna Convention on the Law of Treaties, Article 26;available at:

https://legal.un.org/ilc/texts/instruments/english/conventions/1_1_1969.pdf; date of access:15.04.2020.

Rio Conference was crucial to understand the importance of sustainable development. Sustainability is a key concept in the environmental law system. In addition, its application is of a wider scale. According to Marco Zupi "It is difficult to relate it to just one scientific discipline that coalesces and structures knowledge about the world. It is an attractive term because it is complex, full of theory and political practice. It is an expression that is not easy to define. Moreover, it is insidious since it represents very serious problems and examines the traditional way of looking at the world and life in it."[4] Sustainability is often understood as eco-sustainability and "denotes the essential ability of any system to maintain unchanged its own characteristics and properties in a continuous relationship with space and time in which it is located".[5] The "original" expert definition can be considered to be the definition by the UN World Commission on Environment and Development[6] from 1987 in a document titled "Our Common Future": "development sustainable to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs".[7] Etymologically, the definition of sustainable development can be taken from Latin language *sustineo (sub-teneo)* in which it has a double meaning: "to hold up, sustain, endure" and "to take over, to convey and to commit oneself, to take on the obligation and the responsibility".[8] United Nations Conference on the Human Environment, the so-called Stockholm Conference, was the first conference convened for the purpose of international environmental protection. It was held in June 1972. Numerous environmental conferences have been held to date. The Convention on Biological Diversity was adopted in Rio in 1992. with the purpose of protecting biodiversity, the sustainable use of natural resources. A further step in protecting biodiversity is the 2000 Cartagena Protocol, whose purpose is to ensure handling, transport and use of modified organisms pursuant to the precautionary principle. The Second Protocol pursuant to Article 19 of the Convention on Biological Diversity is the Nagoya Protocol adopted in 2010.[9] The Johannesburg Declaration on Sustainable Development and the Implementation Plan were adopted in 2002. Also important to mention is the meeting of the UN Members organized in Rio de Janeiro in June 2012 named "Rio+20", and the outcome of this meeting was the document "The Future We Want", which, with the purpose of sustainable development, calls for mutual cooperation of three components: economic, social and environmental. The aim of the Paris Agreement is to preserve the current situation from possible climate change. In other words, increase the capacity to adapt to negative climate change.

3. Legal instruments of environmental protection

"Environmental techniques are environmental measures that are prescribed in the process of establishing an environmental permit through the determination of the best available techniques

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[4] Zupi, Marco, Looking to the Future (Reflecting on the Present) Sustainability: Meanings, Ideas and Political Challenges, The Right to Peace for a Sustainable Planet, 1st Human Rights Meeting, Contributors: Oxfam Italia / University of Florence / Lower Normandy / International Institute for Peace and Human Rights in Caen / Istria County / Tuscany Region, 2015., p. 21

[5] Ibid, p. 23

[6] The Commission was also known as the Brundtland Commission after the Norwegian prime minister Gro Harlem Brundtland

[7] Rossi, E., Presentation, The Right to Peace for a Sustainable Planet, First Meeting of Human Rights, contributors: Oxfam Italia / University of Florence / Lower Normandy / International Institute for Peace and Human Rights in Caen / Istria County / Tuscany Region, 2015., p. 11

[8] Ibid, p. 23

[9] Ministry of Natural Resources and Environment, Department of Legal Affairs, International Environmental Law, Hanoi, May, 2017., str. 11; https://wedocs.unep.org/bitstream/handle/20.500.11822/21491/MEA-handbook-Vietnam.pdf?sequence=1&isAllowed=y ; date of access: 13.04.2020.

for a plant, and include technology and how technology is planned, built, maintained, used and disposed of."[10]

According to the authors, there are two types of instruments in environmental policy: command - control and economic instruments. In doing so, command and control instruments include the monitoring of emissions by non-marketable quotas and technical standards, while all others constitute a group of economic (market) instruments.[11] According to author Elli Louka, most international instruments are a command-and-control approach. They are mostly based on the international exchange of information and the submission of reports.[12]

Above all, the Constitution should be singled out as the foundation of every state. Article 3 of the Constitution of the Republic of Croatia prescribes environmental protection as a fundamental value. Article 70 stipulates that the state ensures a healthy environment. Also, self-government units take care of the environment. The next document in importance is the Environmental Protection Act[13]. The Environmental Protection Act contains the following facts: objectives, principles of environmental protection, environmental protection entities, documents of sustainable development and environmental protection, environmental instruments, environmental monitoring, environmental information system, public participation and access to justice in environmental matters, liability for damages, environmental financing, misdemeanour provisions and oversight of the environmental protection system. At the national level, there is also Environmental Protection Plan of the Republic of Croatia until 2020 (hereinafter: Plan)[14], Sustainable Development Strategy of the Republic of Croatia[15] and the Environmental Protection Intervention Plan[16]. The Plan prescribes environmental instruments that seek to eliminate pollution at source. The Strategic Environmental Impact Assessment, the Environmental Impact Assessment and the Environmental Permit were specifically highlighted. Also, separate information was provided - local and regional self-government units have a special role in environmental protection, but self-government units have not fully fulfilled their role. They have not fulfilled their role because they are not independent in performing their tasks in the field of environmental protection and frequent contacts with the competent Ministry.

In practice, there are various techniques aimed at furthering the objectives and applying the basic principles of environmental rights. The purpose of preventive measures is to either avoid or reduce or eliminate the risk of harm. Preventive measures include regulation, licenses and environmental impact assessment. There are four types of standards within regulations: quality standards, emission standards, process standards and product standards. Quality standards define the maximum permissible pollution in an area and depend on geographical features. Emission standards mean a certain amount or concentration of pollution that can be emitted from a source. Process standards require a specific production method, and product standards define the physical or chemical composition of an object, the handling of the object, and the level of pollution that the product can emit during its use. In certain situations, certain rules may be imposed if an action, product or process poses a risk of environmental damage. Licensing, as the second element of regulation, is the most widely used technique for pollution prevention. Most legal systems have provided lists of licensed actions. As a third component,

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[10] Environmental Protection Act, National newspaper 80/13, 153/13, 78/15, 12/18, 118/18, Article 4.
[11] Kordej De-Vila, Ž., Papafava, M., Ekonomski instrumenti u politici zaštite okoliša u Hrvatskoj – teorijska saznanja i iskustva, Privredna kretanja i ekonomska politika, broj 94/2003.,p.p. 29.
[12] Louka, E., International Environmental Law, Cambridge University Press, 2006.
[13] Environmental Protection Act, National newspaper 80/13, 153/13, 78/15, 12/18, 118/18
[14] Environmental Protection Plan of the Republic of Croatia until 2020, National newspaper 46/02
[15] Sustainable Development Strategy of the Republic of Croatia, National newspaper 30/09
[16] Environmental Protection Intervention Plan, National newspaper 82/99, 86/99, 12/01

an environmental impact assessment appears, in which the applicant submits a written document defining the environmental impact of the action. Therefore, the assessment must include a description of the proposed action, a description of the potentially threatened environment, a description of practical alternative actions, an assessment of possible environmental impacts, mitigation measures, indications of potential uncertainties that may be encountered. Implementation measures are oversight, reporting and control (monitoring). Supervision consists of collecting data and submitting it to an institution to analyze it. Control or monitoring is the continuous collection of information and their constant comparison with the relevant parameters. Despite all the instruments available, pollution is still occurring. To this end, there are assistance and coercive measures: the nature of liability, the scope of liability, coercive measures. The principle of liability is based on the fact that the damage has occurred, but it is imposed on the owner of the shop. The problem is with the level of responsibility, as it is mostly about the so-called "soft law." The problem, as always, is profit because states do not want to take responsibility at the expense of profitability.

According to the Environmental Protection Act[17], the following environmental protection instruments are envisaged in the Republic of Croatia: environmental quality standards and technical environmental standards; strategic assessment of the environmental impact of the strategy, plan and program; environmental impact assessment; environmental permit; prevention of major accidents involving dangerous substances; spatial plans as environmental instruments; transboundary environmental impact of strategy, plan and program, intervention and plant; environmental measures for activities for which no environmental impact assessment obligation is prescribed. Quality standards contain limit values, but areas that are more sensitive are defined by law and others can be defined by a Government decree or ministerial regulation. The strategic environmental impact assessment foresees significant environmental impacts that may result from the implementation of a strategy, plan or program. Strategic evaluation is carried out during the drafting of the strategy, plan and program proposals. During the strategic assessment, a strategic study is conducted to assess the expected environmental impacts that the implementation of the strategy, plan and program may cause. An environmental impact assessment is an assessment of the possible significant environmental impacts of the intervention, based on their nature, size or location. Ultimately, the purpose and purpose of the environmental permit is to obtain "comprehensive environmental protection through integrated pollution prevention and control, ensuring a high level of environmental protection and conditions to prevent significant environmental pollution from industrial activities."[18] Preventing major accidents involving hazardous substances is also one of the environmental instruments. Spatial plans as an environmental instrument emphasize the distance between plants and residential areas, public places and ecologically significant areas. If the implementation of a strategy, plan or program could affect the environment and / or health of the people of another country, it shall inform the competent authority of the other country of the draft proposal, plan or program. If an environmental impact assessment obligation is not prescribed and the contractual obligations established by international treaties or agreements or by special regulations are required, then an environmental study must be prepared. Environmental monitoring is the systematic monitoring of environmental quality, changes in the environment and its components. For the purpose of better implementation and implementation of environmental measures, it is possible to develop an operational environmental monitoring program at the request of the operator. In addition, it is also possible to set up reference centres for environmental monitoring. The parent law has overlooked expropriation or restrictions on real rights if there is an interest by the state in setting up facilities or measuring devices for environmental monitoring purposes.

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[17] Environmental Protection Act, National newspaper 80/13, 153/13, 78/15, 12/18, 118/18
[18] Environmental Protection Act, National newspaper 80/13, 78/15, 12/18, 118/18

In the Treaty on the Functioning of the European Union, the European Union, in Articles 191 to 193, addresses the following objectives: to ensure the protection of human health, the protection of the human environment and international cooperation in order to achieve the above objectives.[19] Environmental policy is based on the precautionary principle and the precautionary principle. Furthermore, the principle that the polluter pays because the damage is repaired at the source is also crucial. The measures envisaged to achieve the aforementioned objectives are: the European Parliament and the Council, acting in accordance with the ordinary legislative procedure, shall decide on the achievement of the above objectives; in addition, a special legislative procedure is also underway to achieve the set objectives. Adopts the following measures in accordance with the above procedures: provisions of a fiscal nature; measures relating to spatial planning; quantitative management of water resources; land use and waste management; measures concerning the use of energy sources.[20] Member States may also introduce more stringent safeguards. Under Directive 2004/35 / EC of the European Parliament and of the Council of April 21, 2004 on environmental liability with regard to the prevention and remedying of environmental damage, precautionary measures are prescribed if the damage has not yet occurred, but there is an imminent danger. In such situations, the operator[21] is obliged to inform the competent authority of the current situation and the competent authority may at any time request the following:

1. Provision of information in case of imminent threat of environmental damage
2. Taking preventative measures
3. Instruct the operator on all necessary measures
4. Implement the necessary measures by own action.[22]

However, if damage has occurred, the operator shall inform the competent authority and take the following steps: putting all pollutants under control so as not to further affect human health and the environment. In addition, the competent authority may request the operator to provide additional information and to put in place additional remedial measures. Aware of the weight of environmental responsibility for present and future generations, in 2001 they set minimum standards for environmental inspections. Although the Standards are optional, the primary starting point for adoption is the control over the implementation of national legislation. An environmentally friendly solution is to strengthen the enforcement of national legislation. Minimum standards can only seemingly satisfy the need for reasons they are optional. Some minimum standards in the area of inspection are the following: to plan in advance how inspection is conducted; make a register of controlled installations; a general assessment of major environmental issues; store inspection results, etc.

The Stockholm Convention and the Treaty of Paris have been singled out internationally. The Stockholm Conference adopted certain recommendations in an Action Plan that enables international action:

1. Environmental Assessment (evaluation and review, research, monitoring, information exchange);

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[19] Treaty on the Functioning of the European Union (2016/C 202/01), Article 191

[20] If any of these measures entails high costs for the public authority of each Member State, then temporary derogation and / or funding from the Cohesion Fund is possible.

[21] According to Directive 2004/35 / EC of the European Parliament and of the Council of 21 April 2004 on environmental liability with regard to the prevention and remedying of environmental damage, L 143/56 Article 2 (6) "Operator" means any natural or legal, private or public person who operates or controls the occupational activity or, where this is provided for in national legislation, to whom decisive economic power over the technical functioning of such an activity has been delegated, including the holder of a permit or authorisation for such an activity or the person registering or notifying such an activity.

[22] Directive 2004/35 / EC of the European Parliament and of the Council of 21 April 2004 on environmental liability with regard to the prevention and remedying of environmental damage, L 143/56, Article 5

2. Environmental Management (goal setting and planning, international consultation and agreements);

3. Supporting measures (education and training, public information, organization, financing, technical co-operation).

All 155 recommendations are categorized in the Action Plan by area: the global environmental assessment programme (Earthwatch), the environmental management activities and the supporting measures.

The instruments available under the Paris Agreement are:

(a) „Early warning systems;

(b) Emergency preparedness;

(c) Slow onset events;

(d) Events that may involve irreversible and permanent loss and damage;

(e) Comprehensive risk assessment and management;

(f) Risk insurance facilities, climate risk pooling and other insurance solutions;

(g) Non-economic losses; and

(h) Resilience of communities, livelihoods and ecosystems."[23]

According to the Constitution of the Federal Republic of Brazil, the environmental chapter provides for certain measures:

 - Preserve and restore ecological processes and ensure ecological treatment of species;

- Preserve biodiversity and monitor the effects of genetic engineering;

- Organize territorial units and ensure their protection;

- Make an environmental impact assessment where there is a potential risk of danger;

- Control the production, sale and use of techniques that can pose environmental risks;

- Conduct environmental education;

- Protect the flora and fauna in the manner prescribed by law.[24]

The Amazon rainforest, the so-called the lungs of the world deservedly got a new name. According to experts, there are a number of reasons for the importance of the whole world: conservation is essential for agricultural production and conservation of the so-called. "Flying rivers." The term refers to water vapour generated by evaporation, and the whole process affects the amount of precipitation in South America. The Amazon rainforest is also affecting climate change, as tropical forests are generally thought to absorb 90 billion to 140 billion tons of carbon, all of which affect the stability of the world's climate. The start of international codification can be seen as the 1992 United Nations Convention on Climate Change and the 1997 Koyoto Protocol focusing on greenhouse gas emissions. The continuation of the Protocol is the 2011 Paris Agreement. Brazil is among ten countries with huge greenhouse gas emissions. In line with the above, Brazil is committed to reducing its greenhouse gas emissions by 43% by 2030. The stated goal can only be achieved by additional afforestation, which is prescribed for 12 million hectares of land. Due to its rich flora and fauna, the Amazon rainforest has the highest biodiversity in the world, which is also essential for maintaining homeostasis worldwide.[25]

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[23] Paris Agreement, 2015., article 8.: available at:
https://unfccc.int/files/meetings/paris_nov_2015/application/pdf/paris_agreement_english_.pdf; date of access: 14.04.2020.

[24] Source: http://www.braziliannr.com/brazilian-environmental-legislation/; date of access: 16.04.2020.

[25] Source: https://www.dw.com/bs/amazonska-pra%C5%A1uma-va%C5%BEna-plu%C4%87a-svijeta/a-50156633, date of access: 6.3.2020.

4. Concluding thoughts

The first hypothesis can be regarded as proven, ie there is a uniformity of legal rules at European Union level. First of all, this is evident from the main law, the Environmental Protection Act[26], which in its provisions contains a variety of environmental instruments, but also sanctions in case of non-compliance. The Environmental Protection Act is fully in line with European legal regulations. During its accession to the European Union, the Republic of Croatia underwent the harmonization process.

The second thesis set out in the abstract has not been confirmed - there is no uniformity of legal regulations at the global level. It is believed to exist because the signing of international documents (though not obligatory) entails some forms of responsibility. States Parties are morally bound (by the international community, by the environment) to apply international agreements. The Stockholm Conference, with its environmental assessments, environmental management and incentive measures, is cited as an example. Also mentioned is the Paris Agreement, which includes risk assessment, risk management, the precautionary principle. There are no mandatory standards in international agreements. States Parties are required to submit reports, but there are no sanctions. Legal instruments in the field of environmental protection are in the area of "soft law". However, the importance of the environment goes beyond the elements of "soft law". The importance of environmental protection should be placed on the obligatory, legal and imperative basis by states. The United Nations Conference on the Human Environment in Stockholm is based on recommendations. Also, the Convention on Biological Diversity, Cartagena Protocol, Nagoya Protocol, United Nations Conference on Sustainable Development in Rio de Janeiro RIO + 20 do not have a sanction system in place. There is no relationship between the commanding and sanctioning norms. The issue that remains at the national level is the implementation of measures in the country and supervision or sanctioning in the signatory state. In addition to the cause-and-effect relationship between the norm and the sanction, an effective state is needed. An efficient state implies effective institutions, implies political, economic and administrative efficiency in the state. Therefore, the measures are identical in Slavonia and the Amazon, it is only a matter of implementation, control and control in the countries. The Constitution of the Federal Republic Brazil also has environmental instruments: the conservation of ecological species, the control of genetic engineering, the control, sale and use of techniques that can pose a threat to the environment, etc.[27]

The international community should respond more rigorously in certain situations. The first recommendation would be to control trade relations between countries that do not respect the obligations of international environmental agreements. This would make compliance with the obligations assumed in the field of "soft law". Although the application of the principle of subsidiarity is emphasized today, it may be necessary at some point to pursue other measures for the purpose of 'good governance'. Other measures contrary to the principle of subsidiarity - more frequent supervision and sanctioning by the international community. Key situations bring with them key reactions. Sometimes measures contrary to the principle of subsidiarity may have their justification. In addition, the principle of subsidiarity means that if states are incapable of solving the problem, then the action of a supranational organization is justified. This would be the true meaning of the principle of subsidiarity - if the States Parties did not properly implement the measures taken by international agreements, the focus should be shifted to a supranational level. In such a situation we can expect sustainable development - cohesion of economy, efficiency and democracy. In this situation, there would be no difference between

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[26] Environmental Protection Act, National newspaper 80/13, 153/13, 78/15, 12/18, 118/18

[27] To see footnote 24.

Slavonia and the Amazon because the international community would have obligatory instruments in the international environmental policy.

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HISTORICAL REGION AS A BASE FOR BRANDING A DESTINATION – THE CASE STUDY OF THE REPUBLIC OF POLJICA

ABSTRACT

The subject of this paper is the Croatian historical region of the Republic of Poljica and an assumption that the historical aspects of this region could be the base and solution for destination branding. Poljica is an area with specific geographical, cultural, natural and historical characteristics. This region is currently administratively divided between seven local government units. The main objective of this paper is to explore the attitudes of people living and related to Poljica through questionnaires and to explore the main local government units which are in charge of this region through in-depth interviews. The goal is to discover the available resources of Poljica and the significance of Poljica as a historical region. The results of the research showed that both groups of respondents are considering Poljica as a cultural-historical region and should be officially proclaimed as such. This would lay the groundwork for building a unique Poljica product and brand which would be the Republic of Poljica. In addition, this way of destination branding could be the solution for other Croatian cultural-historical regions experiencing the same issues. The results show dissatisfaction of the respondents with the tourist offer of the area itself, as well as the way local authorities manage the area. However, according to the research results, there is an interest of people who live in Poljica in participating in activities aimed at developing and promoting the Poljica region. The results show that in developing Poljica as a tourist destination, it is necessary to establish a collaboration between all local self-government units and to establish a tourist board for the territory of several municipalities and cities in accordance with the spatial, cultural and other characteristics of a particular area, regardless of administrative boundaries.

Key words: *destination management and branding, cultural-historical region, local government units and tourist boards, Republic of Poljica – Croatia.*

1. Introduction

Tourist destination is defined as an organised spatial unit recognised on the tourist market which provides a range of tourism-related products perceived by the consumers as capable of meeting their leisure-related needs (Križman Pavlović, 2008). Destination brand may be

defined as a name, symbol, logo or mark that both identifies and differentiates the destination, which serves to consolidate and reinforce the recollection of pleasurable memories of the destination experience (Blain, Levy and Ritchie, 2005). Region is defined as an area with common specific characteristics, which may be natural, economic, physiognomic and social (Bjelajac, 2010). The term *historical region* implies a common historical experience characterised by longevity, with common historical features of the region being more important than their differences (Delanty, 2012). In the era of globalisation, when all available information is only a click away, the creation of brand recognition is the cornerstone of competition. Since the market is rapidly changing, people do not have time to learn about the authenticity of each destination, so they tend to believe in the stereotypes such as that Paris and Milan are the capitals of style. All those clichés and stereotypes, regardless of their authenticity, affect the total number of visitors of a certain destination (Anholt, 2007). The process of globalisation has increased the need of destinations to become market-oriented, i.e. to compete globally, and not only regionally. The cities have designed various ways to attract more visitors, investors, fairs, tourists and events (Jelinčić, 2017). In the world of business, distinctiveness is crucial. Not being different means to be replaceable. The difference is not merely in the product itself, but also in the way the product is presented or delivered. The brand development strategy is divided into four categories or dimensions in the minds of the consumers: *functional dimension* (brand-related benefits of the product or services); *social dimension* (possibility of identification with the group); *spiritual dimension* (perception of local or global responsibility); *mental dimension* (possibility of providing mental support to the individual) (Gad, 2005).

Figure 1: Brand Mind Space
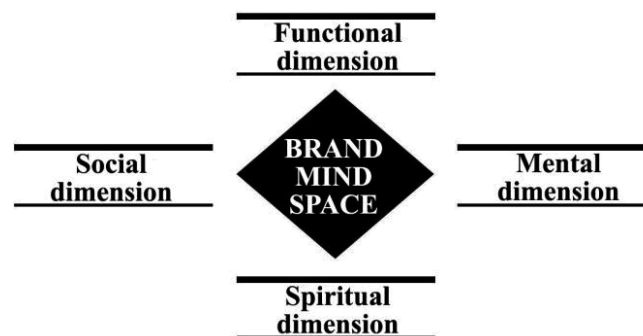
Source: adapted by: Gad, T. (2005): 4-D Branding, Breaking the Network Economy Corporate Code

The concept of sustainable development implies such development which meets the current needs but at the same time does not reduce the possibility of meeting the needs of future generations. The potential benefits of the concept of sustainable tourism include a quality product offer, the preservation of the resource base, the strengthening of cultural identity of the domicile population, and a greater public understanding of the tourism industry (Križman Pavlović, 2008). This paper focusses on the historical region of the Republic of Poljica situated in the Central Dalmatia, whose origin dates back to the 13th century. This region was administratively and socially advanced. It ceased to exist in 1807 after the Napoleon`s army occupied the area. Considering the fact that the Poljica area is currently divided among several local self-government units, the branding of Poljica as a unique region would require the consolidation of all stakeholders and all local self-government units. Poljica as a separate region contains many natural and cultural-historical resources which may serve as the foundation for a sustainable development of the region. The branding of Poljica as a region implies the merger of all attractions, products and services under a unique concept of "umbrella

branding", i.e. the use of a single brand name for the sale of several different products and/or services (Fry, 1967).

The first group of ***population-oriented aims of the research*** derives from the above: to determine the significance of Poljica as a historical region; to examine whether the definition and perception of Poljica as a historical region may contribute to the tourist development of the destination; to examine the satisfaction of respondents with the tourist offer of Poljica and the attitudes of the local population towards the local self-government units. The paper implies that the ***local self-government units and their tourist boards*** within the Poljica area should merge and collaborate in order to brand Poljica as a tourist destination with market recognition and competitive offer with respect to other destinations. The second group of aims is defined within this context: to examine the attitudes and opinions of crucial stakeholders (tourist boards and local self-government units) about their mutual collaboration; to determine whether the collaboration is possible, and whether the collaboration of crucial stakeholders with respect to perceiving Poljica and the former Republic of Poljica as a unique functional unit and a contemporary historical region could lead to the development of the area as a quality tourist destination; to explore the possibility of local self-government units in order to design a common strategy of tourism development of the Poljica area which will serve as a guideline and foundation for further activities; to determine whether it is possible to establish a destination management organisation in the Poljica area; to examine the opinion of tourist boards about the attitudes of the local population towards their activities; to examine the previous strategies and the future plans; to determine whether there is a need to introduce additional activities and amenities in the tourist offer. This paper contributes to the existing literature in the field of tourist destination development and branding. It may serve as a foundation for the tourist and economic development of the region in question, and help in the development of the same or similar historical regions.

2. Tourist destination

Tourist destination, in the simplest form, is a special geographical area visited by tourists who gain special tourist experiences by travelling across the area and visiting its various sites. The offer in a modern destination should be integrated and include all necessary amenities for the pleasant experience of the tourists (Bosna and Krajnović, 2015). In tourism, a destination refers to the location, place, region, country and a group of countries as a travel destination. A tourist destination represents a flexible and dynamic space whose boundaries are determined by the tourist demand, regardless of its administrative boundaries (Petrić, 2006). In order for a location to become a popular tourist destination, it must contain natural attractions, such as, for instance, exotic landscape, climate, beaches and pleasant environment, and have implemented decisions on the development of the infrastructure and tourist facilities, ensure investments, hire and train tourist personnel and select the best method to promote the tourist attractions of the location so that its special features are presented to the potential visitors in the most appropriate manner (Alkier Radnić, 2003). The main goal of any destination is to achieve a long-term competitive advantage at the tourist market (Gračan and Rudančić, 2013). Therefore, a tourist attraction (Magaš, Vodeb and Zadel, 2018) requires the spatial integrity of the tourist offer; it contains a sufficient number of offered elements; it is market-oriented and tourist-oriented; it is independent of administrative boundaries; it must be managed. The strategic goals of the tourist destination marketing are as follows (Buhalis, 2000): to ensure a long-term progress for the local population; to maximise the satisfaction of visitors; to maximise the multiplicative effects and the profitability of local entrepreneurs; to optimise the effects of tourism by ensuring a sustainable balance between the economic benefits and the socio-cultural

and environmentalist expenses. *Destination management* is a continuous process where the tourism industry, the government, the local self-government units and other operators govern the development of the destination with the aim to achieve a common goal and vision. The participation and collaboration of the local community, relevant government authorities and industrial stakeholders is indispensable for the achievement of all planned agreements and goals (Ruhanen, 2007). Quality destination management requires an efficient management of destination resources and the acknowledgement of community interests (Rudančić, 2018). In Croatia, the active participants in the destination management are the public sector (system of tourist boards, local government and self-government units), the private sector (business operators) and the local population of the tourist locations. The complexity of destination management derives from the dire need to ensure sustainable development through the optimal use of resources. It aims to achieve competitiveness in the rapidly changing socio-economic environment (Laesser and Baritelli, 2013). World Tourism Organization (WTO) defines *destination management organisations* as those in charge of the destination management and/or marketing (WTO, 2007). Destination management organisations (DMOs) not only attempt to manage and coordinate stakeholder behaviour at destinations, but they also act as opinion leaders and valuable sources of intelligence for the destination. The present-day role of the DMOs surpasses the mere knowledge of destination management and includes the broader knowledge of economy and socio-environmental effects on the destination system (Bandari, Cooper, Ruhanen, 2014). Important stakeholders in destination management include: local population, public sector government – local and regional self-government units; organisations in charge of tourist management and development (tourist boards, tourist associations, tourist and event organisations and similar entities) (Tomljenović, Živoder and Marušić, 2013). The local self-government plays one of the most important roles in the development planning strategies of tourism and tourist products in a certain area (Dredge and Moore, 1992). The local self-government units are faced with a wide range of challenges connected with a more efficient tourism management within a destination. The greatest challenge is the integration of tourism management with other functions and activities of the local self-government (Chili and Xulu, 2015).

3. Destination branding

Brand is a combination of different factors attributing a certain distinctive identity to the product and/or service (Paliaga, 2007). In addition to products and services, destinations may also be branded. Countries, cities and regions can be branded, too. Tourism is perceived as an activity which terminated the isolation of countries and cities by stimulating large investments of funds in the differentiation of locations with respect to competitive destinations (Gomez, Fernandez, Molina, Aranda, 2016). Branding in tourism is a procedure which distinguishes a certain destination by its characteristics and comparative advantages, thereby creating the destination identity (Bolfek, Jakičić, Lončarić, 2013). Destination image results from the tourist perception and is often not aligned with the desires of the tourism stakeholders and the local population (Šerić, 2012). Tourist destinations as brands should guarantee a certain level of quality and safety, ensure a framework for a positive relationship between the tourist destination and the end users, and define the consumer niche of the end user (tourist) (Krajnović, Bosna, Jašić, 2012). The development of the tourist brand of a certain area requires the collaboration of a wide spectrum of organisations and individuals in the public and the private sector, and activism within the framework of official channels (Warren, Dinnie, 2017). Neglecting the importance of the destination brand and positive image may have negative repercussions on competitiveness (Kesić, Pavlić, 2011). The challenge of destination branding lies in the complexity of the tourists` decision-making process (Liping, 2002). In the process

of destination selection, in the event of comparable prices, a potential tourist`s perception of the destination is the decisive factor in the selection of the vacation location (Pavlić, Kesić, Jakeljić, 2012) A larger product portfolio with a well-established umbrella brand helps the organisation to strengthen the brand position and to increase the marketing efficiency (Perić, Čuić Tanković, Urkin, 2016). From the marketing standpoint, region is perceived as the umbrella brand including a set of various, contrasting and complementary types of services which can provide a wide range of services to the customers. Region is the key functional and geographical unit which requires the branding and the development of marketing and developmental activities. Marketing in tourism is represented as a sum of individual marketing activities of different market participants (Meler, 1998). Even though it has certain similarities with the product branding, destination branding is considerably more complex. It is necessary to achieve an agreement of all interest groups acting in the territory of the region with the aim to determine the vision, objectives and the image of the destination (Pike, 2005). It should be noted that the destination identity includes geographical features, culture, history, tradition, customs, lifestyle and architectural character (Ochkovskaya, Gerasimenko, 2017).

4. Republic of Poljica (Poljica Principality)

Poljica, a landscape of exceptional natural beauty, spiritual and cultural-historical heritage, is situated in the Croatian region of Dalmatia, and geographically delineated by the river of Cetina in the east, the river of Žrnovnica in the west, the Adriatic Sea in the south and the slopes of the Mosor hill in the north. Due to drastic relief changes and climatic specificities covering the surface area of 250 km2, the territory of Poljica is divided into Gornja (Upper/Zagorska), Srednja (Middle/Završka) and Donja (Lower/Primorska) Poljica. As a result of favourable micro-climatic and other natural conditions, Poljica has always been recognised as the area of exceptional appeal in terms of living and housing. This is confirmed by numerous archaeological sites rich in artefacts which are scattered across the mountain heights of Poljica, fertile valleys and the several thousands of years old toponyms which are still used (Kuvačić - Ižepa, 2002).

After the indigenous peoples of unknown etymology, and later the ancient Ilyrian tribes of Dalmatae, Onestinum, Narensi, Pituntium and others, inhabited the territory of Poljica, the Greeks, and later the Romans occupied the area, as evident from the numerous traces of their dwellings and burial sites, ritual piles and megalithic structures, ceramics sites, jewellery, tools and weapons, as well as ancient monuments and countryside villas which, despite their decrepit appearance, still adorn the landscape of Poljica. It is believed that the Roman Emperor Diocletian had a fish pond in the Lišnjak (Srinjine) area in Srednja Poljica, whereas Lucius Artorius Castus, the commander of the Roman legions and the prefect of the Roman fleet who associated with the origin of the historical legend about King Arthur, likely built an impressive estate and the burial plot in the littoral part of Poljica (St.Martin, Podstrana). Poljica abounds with tangible and intangible proof about the early arrival of Slavs, and later Croats, onto this territory. While many toponyms such as Perun, Perunsko, Perunić, Mošnica, Zmijski kamen and other sites situated in the west part of Poljica are audible testimonies of the names of Proto-Slavic deities, the early emergence of Christianity is confirmed by the remains of the grand basilica dating back to the 6th century near the church of St. Cyprian in Gata, and particularly by the pre-Romanesque church of St. Peter on Priko and the Benedictine monastery of St. Peter dating back to the 11th century in Selo (Sumpetar). This place is home to the Sumpetar Cartulary, one of the oldest and most significant preserved written sources of the history of Poljica and Croatia. However, Poljica is undoubtedly renowned as a multi-centennial Old Croatian principality which was, unlike the patrician Dubrovnik Principality, the land of free

peasants referred to as *didići* (who had rights on lands), who descended from the three sons of Miroslav, the assassinated King of Croatia ruling from 945 to 949. According to the oral tradition, they inhabited Poljica at the beginning of the 11th century. After 1357, they were joined in their endeavours to build a harmonious and fair society by the descendants of the noblemen Juraj Rajčić and Dražoje (*ugričići* (noblemen from the areas controlled by Hungary) or *vlasteličići* (noblemen from other parts of the Kingdom of Croatia-Hungary)), who were referred to Poljica by Louis, the King of Croatia and Hungary. The self-government of the people of Poljica lasted for six centuries. Its internal structure was based on the separation of powers into three branches: legislative power was under the competence of the National Assembly or College, whereas the executive and judicial power was performed by the Poljica Table led by the great prince who was elected by 12 princes or village elders from 12 villages of Poljica each year on St. George`s Day [the traditional Poljica villages and associated villages of Gornja Poljica include: Dolac Donji and Gornje Polje (Putišići, Srijani, Trnbusi); of Srednja Poljica: Kostanje (Podgrađe, Seoca, Smolonje), Trviž-Zvečanje, Čišla (Ostrvica), Gata (Zakučac, Naklice), Dubrava (Zastinje, Račnik), Sitno and Srinjine (Osič, Čažin Dolac, Ume); of Donja Poljica: Duće (Truše), Jesenice and Podstrana]. The most important political and cultural achievement of the ancient Republic of Poljica is the famous Poljica Statute written in Bosnian Cyrillic script in Croatian language (in Shtokavian and, in places, Chakavian dialect), whose oldest manuscript conserved in the archives of the Croatian Arts and Sciences Academy in Zagreb dates back to 1440. This common law code is one of the oldest and the most significant Croatian historical and legal documents because it testifies to the particularity of spiritual and social environment of this small rural republic and its democratic achievements which had preserved the faith of its people in the strength of their community for a long time. Even though Poljica established a higher education institution for Glagolitic priests who cared for the spiritual life of the community and literacy of the people as early as in 1750 on Priko, the historical conditions urged them to defend the right to their own way of life in blood. Therefore, the oral tradition still preserves the vivid memory of Mila Gojsalić, the brave heroine of Poljica from the era of the battle against the Ottomans, who personified the heroism of Poljica and the sacrifice for the Poljica sovereignty, hence her character inspired some of the greatest Croatian artists such as Meštrović, Gotovca, Šenoa, Papandopulo, Rački, Ivanišević and others. In the same period, Žarko Dražojević, the prince of Poljica, rose to fame. Since he was considered a hero, the City of Split honoured him by laying him to rest in the Cathedral of St. Domnius in 1508 as the first secular nobleman because he, like many other people from Poljica before and after him, sacrificed his own life to defend Split and Klis from the Ottomans. The heroism exhibited in the battles against the Ottomans raised many other people from Poljica to immortality, such as Bara Lekšić and Mara Žuljević, the priest Jure Pezelj, brothers Janko and Šimun Marjanović, Juraj Roguljić who was the first to raise the flag of freedom at the fortress Kamičak in Sinj in 1686 and Marko Sinovčić, who was crowned with glory in the Cretan War (1645-1699), which earned him the honour of the governor of the capital of Crete. Famous people originating from Poljica in the recent period include the noble historiographer Alfons Pavić Pfauenthal (1839-1919), ethnographer and priest Frane Ivanišević (1863-1947), saint and Presbyterian Leopold Bogdan Mandić (1866-1942), composer Ivo Tijardović (1895-1976), writers Vladimir Nazor (1876-1949), Drago Ivanišević (1907-1981), Jure Kaštelan (1919-1990), Nikola Miličević (1922-1999) and Josip Pupačić (1928-1971). The particularity of the Poljica identity made a lasting impression on many people beyond the borders of Poljica, including the Russian scientist Mihail Pavlovič Alekseev (1896-1971) who wrote about the Slavic (Poljica) sources of Utopia (Louvain, 1516) by Thomas More. In addition, Thomas More (1478-1535) referred to the Glagolitic priests from Poljica as Poly(it)eritu, i.e. those who simultaneously use several scripts (Glagolitic, Cyrillic and Latin). Finally, even the Napoleon`s Marshall Marmont, who was so impressed with Poljica (even

though it was the French who eventually terminated the particularity of Poljica by the military decree of the general governor Vicenzo Dandolo on 11 June 1807), wrote the following in his memoirs: "Everything in this place speaks in its favour, its external appearance and the internal structure of its governance. I have not seen anything more precise and diligent than their land cultivation, anything more decent than their villages and anything more just than their regulations". On 3 January 1912, upon the approval of Vienna, Poljica was reinstated as a unique municipality with the seat on Priko. It existed within its historical boundaries until the WWII, after which it was again divided among the adjacent cities of Omiš, Split and Sinj. In the modern-day Croatia since 1992, the historical area of Poljica has been claimed by the cities of Omiš, Split and Trilj, and the newly-founded municipalities of Dugi Rat, Podstrana, Dugopolje and Šestanovac (Figure 3). Therefore, it should be noted that the territorial integrity of Poljica is still only preserved by the Poljica Deanery founded on 21 September 1957 as a territorial and pastoral entity included in the Split-Dalmatia Archdiocese which contains 19 parishes: Donji Dolac, Dubrava, Duće, Dugi Rat, Gata, Jesenice, Kostanje, Ostrvica, Podgrađe, Podstrana, Priko-Omiš, Donje Sitno, Gornje Sitno, Srijane-Gornji Dolac, Srinjine, Strožanac-Podstrana, Trnbusi, Tugare and Zvečanje (Mekinić, 2011, Pivčević, 1987). Even though it does not exist as a formal and legal entity for decades, Poljica is still very much alive in the hearts of the people of Poljica of all ages, both of those originating from the territory of the ancient principality and those who moved to different Croatian and worldwide territories. Since the cultural-historical and traditional heritage of Poljica and the beauty of its landscape still attracts new inhabitants and numerous tourists, it seems that Poljica remains *terra incognita* only in the eyes of its competent cities and municipalities and their tourist boards, which is an issue to be explored in this paper.

Figure 2: Map of Poljica with the current administrative divison
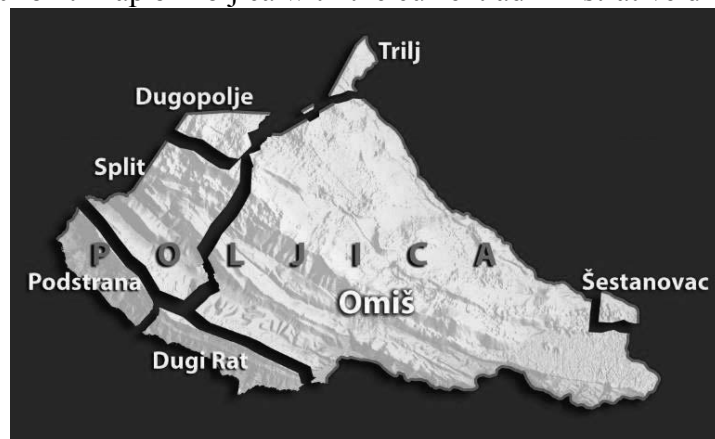
Source: http://poljica.hr/poljica-kao-suvremena-hrvatska-povijesna-regija/, 30. 5. 2019.

5. Research results

The *first part* of the primary research in this paper was performed by a descriptive analysis based on a structured questionnaire on the sample of 290 respondents. One of the most important control research variables of the sample was to include respondents originating from Poljica and those not originating from Poljica, and the residents (living temporally in Poljica) and non-residents of Poljica. Respondents were able to complete the survey online (the respondents were selected so that the survey was published on social networks in groups affiliated with Poljica) or in print by going to the Poljica area and distributing the survey to the residents.

The *second part* of the primary data collection included the examination of the competent local self-government units (municipalities and cities) and the competent tourist boards in the area of the Republic of Poljica. The research was conducted via in-depth interviews with the competent officials and the analysis of the secondary data (tourism development strategy of certain cities/municipalities in the area of the Republic of Poljica).

The results of the ***first part*** of primary ***population analysis*** show approximately the same number of male (51.8%) and female (48.2%) respondents. The largest number of respondents are aged between 35 and 45 (25.7%), or between 24 and 28 (21.2%). According to the level of education, the largest number of respondents have attained a secondary education level (48.7%) or a university degree (26.1%). The largest number of respondents have a permanent or a part-time employment. The largest number of respondents have a total household income of 7,001-10,000 HRK (21.2%), or 10,001-15,000 HRK (20.4%).

Graph 1: Parentage of respondents (%)
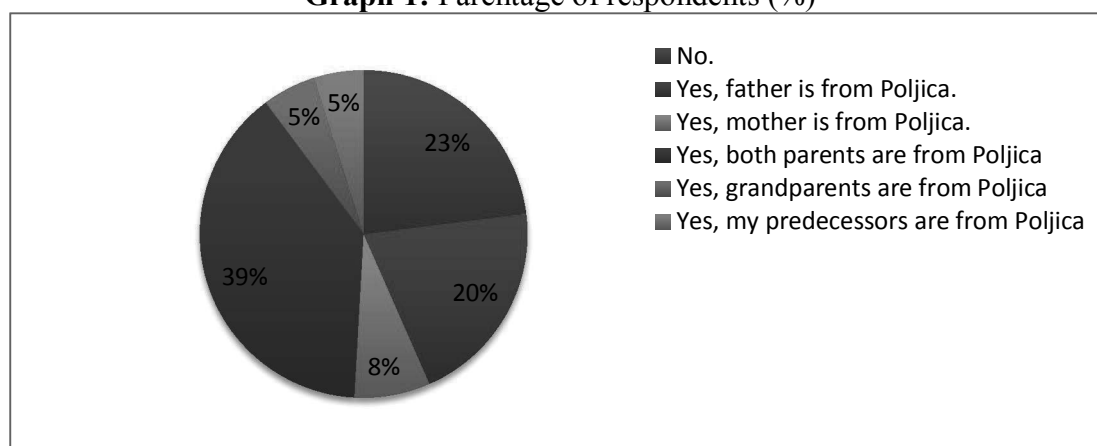
Source: created by the authors based on the research

According to the research results, the majority of respondents originate from Poljica, as evident from the graph above. In addition, a large number of respondents own a house (47.8%) or a land property (40.7%). Out of all the respondents who own any kind of material property in the Poljica area, the largest number of respondents own both a house and a land property. The total of 23% respondents are actively engaged in an association affiliated with Poljica. The total of 39.4% respondents reside in the Poljica area. The largest number of respondents residing outside of the Poljica area live in Split. However, some respondents stated that they did not live in the Poljica area, whereas they listed the locations within the Poljica area as their places of residence. These results showed that there are respondents who are unaware of the fact that they live at the territory of the former Republic of Poljica.

In the follow-up survey, the respondents were able to list their first association with Poljica through an *open-ended question*, so they most frequently listed *soparnik* (baked pastry filled with Swiss chard) (24.8%). Other frequently listed associations include the Poljica Statute (8.4%) and Cetina (7.5%). The rest of the associations had below 5% of occurrences. The replies of the respondents originating from Poljica were compared to the replies of those not originating from Poljica. In both cases, *soparnik* was the most frequently listed association, even though it was less mentioned by the respondents originating from Poljica (19.5%) as compared to those not originating from Poljica (42.3%).

By conducting further research and providing the respondents with various associations related to Poljica (Table 1), it shows that the respondents expressed the strongest association

with Poljica through *soparnik*, the Poljica Statute, the Republic of Poljica (the Poljica Principality), Mila Gojsalić, Mosor, Cetina and Gradac with the church of St. George, which is a valuable input for the future branding of the Republic of Poljica. The least recognised association with Poljica was Lvcivs Artorivs Castvs (the mythical King Arthur) because 25.3% of respondents stated that there are no associations between him and Poljica at all, while 29.1% stated that there are no associations between him and Poljica. Less recognised association, and one of the most important Poljica resources, is the Šćadin rainforest, as 27.4% of respondents stated that there are no associations between the rainforest and Poljica, while 17.3% stated that there are no associations between the rainforest and Poljica at all. Less recognised associations also include the church of St. Peter on Priko, as 41.1% of respondents stated that they there are no associations between the church and Poljica.

Table 1: Associations with Poljica

Association	There are no associations at all	There are no associations	There are some associations	There are associations	There are many associations
Soparnik (baked pastry filled with Swiss chard)	0.4%	1.8%	10.6%	15.5%	71.7%
Republic of Poljica (Poljica Principality)	2.2%	3.1%	11.1%	18.1%	65.5%
Mila Gojsalić	2.7%	2.2%	12.8%	18.6%	63.7%
The Poljica Statute	0.9%	3.1%	11.5%	21.7%	62.4%
Mosor	2.2%	3.1%	19.5%	20.4%	54.9%
Cetina	2.2%	4.4%	19.0%	28.3%	46.0%
Gradac with the church of St. George	6.2%	12.4%	18.6%	21.2%	41.6%
Small fields delineated by dry-stone walls	3.1%	10.2%	23.9%	26.5%	36.3%
The Historical Museum of Poljica	4.4%	10.6%	25.7%	24.3%	35.0%
Glagolitic and Bosnian Cyrillic script (Poljica script)	5.3%	13.7%	23.9%	25.2%	31.9%
Sanctuary of St. Bogdan L. Mandić in Zakučac	10.2%	14.2%	27.0%	21.2%	27.4%
Sea	8.4%	15.5%	29.6%	20.4%	26.1%
Historical seal	5.8%	22.1%	24.3%	24.3%	23.5%
Ilyrian (Glagolitic) Seminary	10.6%	23.0%	21.2%	22.1%	22.6%
Kostanjsko-pograjska ljut entrepreneurial zone	12.4%	20.8%	23.5%	21.7%	21.7%
Church of St. Peter on Priko	16.8%	24.3%	17.7%	21.2%	19.9%
Lvcivs Artorivs Castvs (mythical King Arthur)	25.3%	29.1%	21.5%	11.4%	12.7%
Šćadin rainforest	17.3%	27.4%	27.0%	16.8%	11.5%

Source: prepared by the author based on the conducted research

Table 2 illustrates the attitude of respondents towards the appropriateness of the listed type of tourism in Poljica. The respondents could also propose the activities to be included in the tourist offer of Poljica, so these mostly included sport-related activities (fishing, cycling, tennis courts and golf courses). Other proposed activities included the larger number of cultural events such as theatrical performances and a "Live Museum" where the visitors could see the prince and the Poljica Statute, then glamping, the Poljica Rosary (the route connecting the churches), the

establishment of the nature park (the Šćadin rainforest and the Kostanjsko-pograjska ljut entrepreneurial zone).

The majority of respondents perceive Poljica as a historical region. In addition, the majority of respondents, even though to a lesser extent, believe that Poljica should be officially proclaimed a historical region, as evident from Graph 2.

Table 2: Types of tourism

Types of tourism	It is not appropriate at all	It is not appropriate	It is somewhat appropriate	It is appropriate	It is completely appropriate
Eco-tourism (experiential tourism)	2.2%	5.8%	23.0%	26.5%	42.5%
Rural tourism	1.8%	4.0%	25.7%	27.0%	41.6%
Cultural tourism	3.1%	3.1%	27.0%	28.8%	38.1%
Vacation tourism	3.1%	2.7%	27.0%	29.6%	37.6%
Adventure tourism	3.1%	4.4%	31.4%	27.0%	34.1%
Sports-recreational tourism	3.1%	8.4%	27.4%	29.2%	31.9%
Religious tourism	6.2%	16.8%	28.3%	27.4%	21.2%

Source: prepared by the author based on the conducted research

Graph 2: Poljica as a historical region
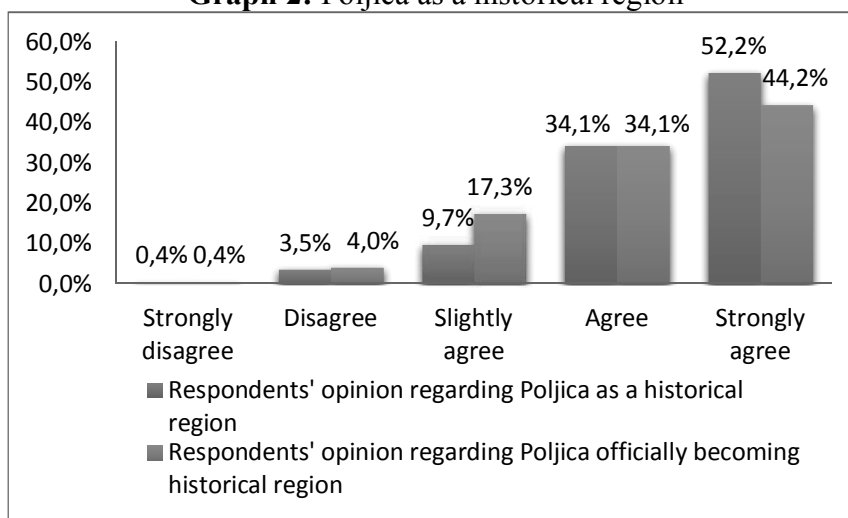
Source: created by the author based on the research

The comparison was also made between the replies according to the provenance of the respondents. As many as 92.5% of respondents originating from Poljica believe or completely believe that Poljica is a historical region, while 85.7% of respondents believe that it should be proclaimed a historical region. The total of 65.4% of respondents not originating from Poljica perceive Poljica as a historical region, while 53.9% believe that it should be proclaimed a historical region. The respondents believe that Poljica has the potential to become a sustainable tourist destination. The majority of respondents (62.4%) believe that Poljica should have an appropriate status within the competent local self-government units.

The research has shown that 71.2% of respondents believe that Poljica as a historical region has enough potential to become an independent and sustainable tourist destination. The total of 75.9% of respondents originating from Poljica believe that the area has the potential to

become a sustainable destination, which was supported by 55.8% of respondents not originating from Poljica.

The research has shown that 36.3% of respondents completely believe, 26.1% believe and 26% somewhat believe that Poljica should have an appropriate status within the competent self-government units. It is evident from Graph 3 that the largest number of respondents completely believe (30.5%) or believe (35%) that Poljica should have its own tourist board. The replies of the respondents originating from Poljica were compared to the replies of those not originating from Poljica. Both groups mostly believed that the tourist board of Poljica should be established, even though this was believed to a lesser extent by the respondents not originating from Poljica. In fact, 69% of respondents originating from Poljica completely believe or believe that the tourist board should be established, while the same reply was provided by 53.8% of respondents not originating from Poljica.

Graph 3: Respondents' opinion about starting tourist bord of Poljica

Source: created by the author based on the research

The respondents` attitudes concerning Poljica and the competent authorities are presented in Table 3 (1 – I completely disagree, 2 – I disagree, 3 – I somewhat agree, 4 – I agree, 5 – I completely agree). The table shows that the respondents mostly believe that the preservation of tradition is important for the local community (place, municipality, entire Poljica area). A large number of respondents expressed their desire to learn more about Poljica through organised lectures and workshops, and they mostly want Poljica to achieve a greater degree of cultural and tourist development. It should also be noted that the respondents are not satisfied with the tourist offer of the Poljica area. They believe that the competent self-government units are not sufficiently actively engaged in the preservation and promotion of Poljica and that the competent self-government units could make better use of the historical resources to advance and promote the region. The respondents believe that a better collaboration between the self-government units would contribute to the development of tourism. They believe that a direct collaboration between the public and the private sector and the local population may serve as a foundation for the development of the tourist destination, and that a precisely defined tourism development strategy would lead to the development, increase of competitiveness, larger investments. Finally, the respondents believe that the establishment of a destination management organisation and the inclusion of various sectors would ensure a sustainable long-term development of the Republic of Poljica.

Graph 4 shows that the respondents believe that their local community council is not actively engaged in the cultural and tourist development of Poljica. In addition, the majority of analysed residents of Poljica believe that the local self-government unit (municipality or city) does not work on the promotion or development of Poljica, and neither do the non-competent authorities. The total of 74% of respondents believe that the locals participate in designing the

activities related to the tourist development of Poljica only to a minor or extremely minor extent, while 70% of respondents expressed their interest in participating in the projects related to the tourist and economic development of this area.

Table 3: Respondents` attitudes about Poljica, competent self-government units and collaboration potentials

	1	**2**	**3**	**4**	**5**
a) I have been acquainted with the history and the tradition of the Poljica area.	3.1%	3.5%	36.3%	32.7%	24.3%
b) I want to learn more about Poljica through organised lectures and workshops.	3.5%	4.4%	29.2%	26.1%	36.7%
c) I want Poljica to achieve a larger degree of cultural and tourist development.	1.3%	0%	19.9%	23%	55.8%
d) Preservation of tradition is important for the local community (place, municipality, entire Poljica area).	1.3%	1.3%	14.2%	22.6%	60.6%
e) I am satisfied with the tourist offer of the Poljica area.	13.7%	27.4%	44.2%	11.5%	3.1%
f) I believe that the competent self-government units are actively engaged in the preservation and promotion of Poljica.	19%	26.1%	35.8%	12.4%	6.6%
g) The competent local self-government units can make better use of the historical resources to advance and promote the Poljica region.	0.9%	4%	23.5%	28.8%	42.9%
h) Better collaboration between the local self-government units would contribute to the development of tourism.	2.2%	2.2%	20.8%	27.9%	46.9%
i) Direct collaboration between the public sector, the private sector and the local population represents a foundation for the development of the tourist destination.	1.3%	3.1%	23.9%	28.8%	42.9%
j) Precisely defined tourism development strategy would lead to the development, increase of competitiveness, larger investments.	0.9%	2.7%	18.6%	34.5%	43.4%
k) The establishment of a destination management organisation and the inclusion of various sectors would ensure a sustainable long-term development.	3.1%	4%	23.9%	32.7%	36.3%

Source: prepared by the author based on the conducted research

Graph 4: Inhabitants' opinion about local government
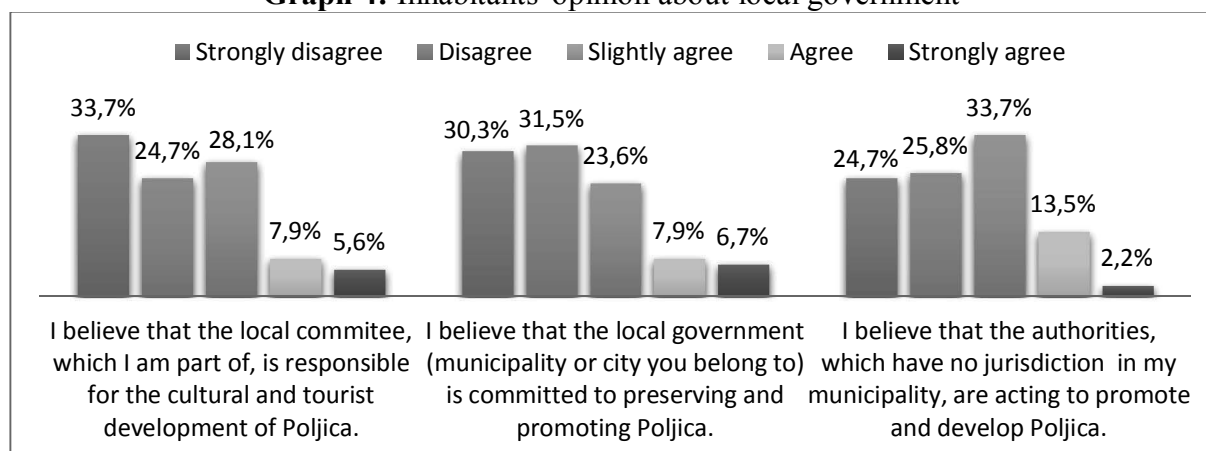
Source: created by the author based on the research

The *second part of the primary data collection* included five tourist boards in the Poljica area. In-depth interview was used as a research method. The following tourist boards participated in this research: TB of the City of Split, TB of the City of Omiš, TB of the municipality of Dugi Rat, TB of the municipality of Podstrana and TB of the municipality of Dugopolje. All respondents concluded that Poljica has the potential and deserves to be proclaimed a modern Croatian cultural-historical region, and that the development of sustainable tourist offer based on the preservation of the cultural and gastronomic heritage may transform Poljica into a cultural-historical region. They think that Poljica has enough potential to become a sustainable tourist destination and want Poljica to reach a higher level of cultural and tourist development. They also believe that a higher level of cultural and tourist development would contribute to the strengthening of competitiveness of the area and the entire Split-Dalmatia County. The respondents consider that Poljica has the potential to develop as a tourist destination competitive with respect to other destinations, and that cultural tourism, rural tourism and eno-gastro tourism are the most suitable types of tourism for Poljica. According to the respondents, the most important resources that Poljica has are: the cultural-historical heritage, the culture of life and work, and the sea as the foundations for the development of the tourist offer. They conclude that the local self-government units and the tourist boards can make better use of their historical resources for advancing and promoting Poljica. The respondents believe that the developmental and infrastructural projects should be more supported by the regional and local self-government units with the emphasis on the preservation of natural heritage; that the competent tourist boards should provide more support in terms of creating new products; and they also stressed the importance of consultations with the local population regarding the planning of tourist development with the aim to preserve the historical resources. According to the respondents, various activities are conducted by the local self-government units/tourist boards which should promote and develop the Poljica area. The respondents assume that the local community (people) are mostly satisfied by the work of the local self-government units and the tourist boards. They are open to communication with the members of the community and try to accept all suggestions and remarks and respond to them in the optimum manner. All examined tourist boards have evaluated their work on the development of Poljica as a tourist destination as very good. Regarding the establishment of a unique tourist board for the Poljica area, the respondents consider that they should consult other tourist boards in that area and study the legislation. The unique tourist board should be established if it can act as a bearer of development on its own, but there are issues such as funding of the tourist board and its potential projects. Some respondents assume that the existing system can be used to brand Poljica without establishing the tourist board for the area. One respondent proposed the establishment of a special office within the existing competent tourist board which will exclusively handle the promotion and development of tourism in the Poljica area. All respondents agree that a direct collaboration between the public sector (local self-government units, tourist boards) and the private sector (business entities) and the local population may serve as a foundation for the development of the tourist destination. Such collaboration implies the development of the tourist offer and the implementation of certain projects aimed at the comprehensive development of the Poljica area. All entities expressed their satisfaction with the collaboration, but they believe that the collaboration can be further strengthened and improved, especially in terms of the development of new tourist products and experiences, and marketing. The respondents` vision of ideal collaboration is a timely and detailed alignment of activities and projects in collaboration with all competent entities, and regular consultations and meetings between the representatives of local self-government units/tourist boards in the course of planning of the tourism development and the marketing campaign strategies. All respondents agree that a specifically defined strategy of tourism development would lead to the development of the area, increased competitiveness, larger investments. The design and the

implementation of the strategy is indispensable for the quality systematic tourism development management. Every city/municipality has adopted their own tourism development strategy, but there is no unique strategy for the entire Poljica area. For instance, Omiš planned to adopt the comprehensive tourism development strategy in 2019, as a result of joint efforts of the city government and the competent tourist board, which is intended to include the Poljica area. It should be noted that in terms of territorial coverage, Omiš is one of the largest cities in Croatia, and the largest part of its territory is situated precisely in the Poljica area. The previously adopted strategies contain some erroneous claims about Poljica. The tourism development strategy of the municipality of Podstrana states that only part of the municipality belongs to Poljica, whereas in fact the entire area of the municipality of Podstrana belongs to Poljica. Similarly, the development strategy of the City of Split, which includes a large portion of the Poljica area and has competence over several locations in the Poljica area, does not even mention the Poljica area. It can be concluded that the strategies and the presented plans do not reflect the opinions and the intentions of the respondents.

The respondents are acquainted with the concept of destination management. They conclude that a systematic and planned management of all tourist resources is necessary for the purpose of a long-term destination development. They also consider that the establishment of a destination management organisation would ensure a sustainable long-term development, and they emphasise that an active participation of the public and the private sector is necessary within the destination management organisation. There are predispositions for its establishment, but the law has not regulated the functioning of such an organisation. In the current proposal of the new Tourist Board Act, the emphasis is on the destination management organisations which should resolve all pending issues. However, it is unclear as to when the proposal will turn into the final act.Split perceives Poljica as part of Split, and their main connection is the cultural context and the gastronomical heritage. Considering the fact that Poljica gravitates towards the city area and constitutes a part of the Split agglomeration, it is believed that the narrative of the Republic of Poljica can be incorporated into the wider city image through the development of creative cultural guides and routes connecting the historical and the traditional context. This again leads to the detachment and the failure to recognise Poljica as an integral and separate brand destination. The collaboration with other destinations in the Poljica area could contribute to a greater variety of tourist offer of the City of Split, especially in terms of dispersing the tourist activities onto less developed adjacent areas, which would eventually contribute to the uniform development of tourism in the Poljica area. Omiš is currently perceived as a city with a rapidly growing tourism, which is faced with various developmental challenges. Omiš is perceived as part of the Poljica area. The narrative of the Republic of Poljica is mostly incorporated through its history and heritage, and is perceived as rather important. The respondents believe that Omiš would become a more comprehensive destination if they collaborated with other destinations. Podstrana is perceived as part of the Poljica area, and the respondents feel affiliation with the history of Poljica that they try to preserve. The respondents believe that Podstrana would become a more comprehensive destination if they collaborated with other destinations. Dugi Rat is currently perceived as a tourist destination where tourism is considered an everyday activity of the local population. In the future, the perceive themselves as a more developed destination with an optimised tourist offer and a greater level of development of every type of tourism (eco-tourism, rural tourism, cultural tourism and vacation tourism). They perceive Dugi Rat as part of the Poljica area, and the Poljica narrative is incorporated in the image of Dugi Rat through the cultural-historical context. They believe that it would become a more comprehensive destination if they collaborated with other destinations.

A partial *limitation* of this research is the relatively small number of locals and surveyed, so it is recommended that future studies examine a larger number of locals or even generally survey the inhabitants of Croatia. The limitation may be that not all stakeholders involved in the development of the destination and the creation of the brand participated, and thus some future research could question the opinions of the Ministry of Tourism, Administration, Economy, Entrepreneurship and Crafts and such research could be a good basis for the development of the Republic of Poljica. This research may be the basis for *further research* in the Poljica area. It could also serve other similar cultural-historical regions with similar problems to conduct their research that would assist them in their development.

6. Conclusion

Tourist destination is defined as an organised spatial unit recognised on the tourist market which is perceived by the consumers as capable of entirely meeting their leisure-related needs. Since brand design has always been important, the destination branding is becoming more popular in the modern world. According to the local population, the competent local self-government units of Poljica, including municipalities and cities, local community councils and tourist boards, do not invest enough effort into the development of the destination. The proclamation of Poljica as a cultural-historical region would greatly contribute to the brand design. In the branding process, the region is perceived as an umbrella brand which connects various types of products and services whose aim is to stimulate positive experiences of end users which will eventually turn into loyalty. Considering the fact that *soparnik*, the Republic of Poljica (the Poljica Principality), Mila Gojsalić, Mosor and Cetina were listed as the first associations with Poljica by both the respondents originating and those not originating from Poljica, they can serve as the foundation for the brand design. The local population expressed their interest in the participation in projects and activities related to the tourist and economic promotion and development of Poljica. In any case, Poljica has the potential, interest of the local people and the resources for the creation of a strong, recognisable and competitive brand. According to the research results, the local population (both originating and not originating from Poljica) and the tourist boards confirmed that the definition and perception of Poljica as a unique functional unit and a historical region is a prerequisite for the branding of Poljica as a tourist destination. It is assumed that the unique character of Poljica derives from its tangible and intangible cultural heritage, geographical position, nature and other region-specific products, which is considered as a prerequisite for the creation of the tourist offer. The local population expressed their dissatisfaction with the current tourist offer of the area, and the attitudes of the locals affect the level of involvement in the activities related to the development of the region. There is also a rich sacral heritage which may be associated with the consumer`s system of belief. The collaboration between the public and the private sector and the local population is essential for the development of the tourist destination and sustainable destination management. The development of the offer based on the preservation of the cultural heritage would contribute to Poljica becoming a contemporary cultural-historical region. In addition, all respondents believe that Poljica deserves to be proclaimed as such, since it has enough potential to become a sustainable tourist destination. According to some opinions, the local self-government units and tourist boards should prepare a common tourism development strategy of Poljica which will serve as a guideline and foundation for any further activities. However, the research has shown that this has not been the case in the previous periods or in current practice. The respondents believe that the establishment of a destination management organisation would ensure a sustainable long-term development. The proposal of the new Act defines the legal grounds for the restructuring of the tourist boards system according to the model of DMOs. The new Act should contribute to the creation of all necessary prerequisites

for the implementation of destination management operations. The respondents believe that the local self-government units and tourist boards should perceive the cultural-historical attractions and sites as the foundation for creating a quality offer and the development of the destination.

In order to gain a better insight into the current position of Poljica or what is left of Poljica, this once famous historical region should be observed from the perspective of its seven competent local self-government units: the cities of Omiš, Split and Trilj, and the municipalities of Dugi Rat, Podstrana, Dugopolje and Šestanovac. Each of them, except for Dugi Rat and Podstrana which are entirely situated at the territory of Poljica but only as formal parts of Poljica, considers Poljica merely as the most undeveloped part of their area which "seeks so much, but yields so little or nothing at all". As a result, Poljica is not included in the development plans and budgets of above-mentioned local self-government units, other than as a disposal site for unnecessary or disposable products. The inferior status of Poljica is emphasised by the fact that, for decades, Poljica has not been considered a legal entity which may decide about its own fate. As a result, today Poljica is perceived as a dysfunctional spatial and social community of a questionable identity with unclear and non-existent development vision. We should not be deceived by the recently populated littoral part of Poljica (and, to a lesser extent, the middle part), because the largest part of Poljica is a completely desolate area, utterly neglected in terms of its communal and infrastructural facilities, without any essential amenities required for normal life and housing. It is particularly this "unused" historical part of Poljica, in addition to the cultural-historical and traditional heritage of Poljica, that constitutes the greatest element of value of the present-day Poljica. However, the prerequisite for the economic and demographic revival of Poljica is the functional integrity of its territory regardless of the administrative and territorial disintegration into seven local self-government units, and the incorporation of existing cultural-historical attractions and natural resources into common development projects. In order to achieve that, it is mandatory to emphasise at all times and at all levels that Poljica is a naturally, historically, culturally, developmentally and functionally a unique spatial and social unit which deserves much more with respect to its natural and human resources, and in particular its historical merits. It is paradoxical yet true that the current obstructionists of Poljica development would enjoy the greatest benefit from the revival of Poljica, since Poljica does not have its own budget. Therefore, the local population of Poljica should insist on the redefinition of the status of Poljica, especially in the context of the existing relations with the competent local self-government units, whose rational and moral obligation is to perceive Poljica as an equal and worthy partner, and consider each aid and support provided to Poljica as an investment into their own development. Consequently, the stakeholders of the social, political and economic life of Poljica should jointly engage in a unique process of revival of Poljica in order to make it into a brand name which would personify a contemporary historical region and a distinctive and unique tourist destination. Due to that, Poljica should focus on various types of sustainable tourism aimed at the "new kind of tourist", a physically and intellectually active individual who collects life experiences, adventures and stories, characterised by environmental awareness and the desire to participate in travels that would contribute to his/her personal development. Such form of tourism is ideal for the revival of Poljica and the promotion of all other types of entrepreneurship and activities because it allows for the preservation of cultural-historical and traditional heritage of Poljica, and provides new living and employment prospects for the people of Poljica.

In conclusion, the synergy of the systematised cultural-historical and traditional heritage with the natural and human resources in the context of development of sustainable tourism, the associated tertiary services (commerce, transport, services), the healthy food production (possibly organically grown), and the development of renewable energy sources (water, sun,

biomass) would create the prerequisite for the revival of Poljica as a separate and unique tourist destination whose main tourist offer is characterised by a spiritual and adventurous experience, namely the genuine hospitality and the traditional way of life and the lifestyle of Poljica area. In other words, the entire Poljica area could be branded as a large "live" museum, whose exhibits would include the preserved tangible and intangible cultural heritage of Poljica, while the people of Poljica, who genuinely live their traditional heritage in practice, could act as curators. If the local population turned to sustainable tourism based on the cultural-historical, traditional and natural heritage and the pertaining tourist offer, Poljica could be perceived as the "living room" of the central part of the Split-Dalmatia County, and possibly even farther – from Zadar to Dubrovnik. Poljica could develop a special tourist collaboration with Dubrovnik considering the fact that the the Republic of Dubrovnik and the Republic of Poljica are the only two historical Croatian republics in the territory of Dalmatia, and they are currently well-connected with the construction of the A1 Highway. When Poljica is proclaimed a contemporary historical region of Croatia and a separate and unique tourist destination whose main tourist offer is characterised by the multi-centennial way of life and the lifestyle of the Poljica area, Croatia will be honoured to have such a brand which is competitive to other similar foreign role models (Tuscany and Provence) and domestic role models (Istria and Konavle). Poljica will serve as an example of happy living to other parts of our beautiful country and a synonym for success based on the joint efforts of the curators of heritage of Poljica and the stakeholders of this exceptional area.

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EXPLORING THE RELATIONSHIP BETWEEN INFORMATION TECHNOLOGY AND PROCESS ORIENTATION: CASE OF CROATIAN COMPANIES

ABSTRACT

Aims: Companies today are moving to more process-based structures. It means that in this global environment business processes represent a core of the functioning of the company because they primarily consist of processes, not products or services. In other words, nowadays, managing a business means managing its processes. The theory and practice claim that information technology (IT) is a critical enabler for the transition to business process orientation (BPO). So, the aim of this paper is to empirically test the relationship between IT and BPO. Methodology: In the theoretical part of this study an overview of process IT is presented and the theoretical background on BPO is explained. The empirical part of the paper examines if there is a statistically significant connection between IT and BPO by using correlation coefficient and regression analysis. Results: The results of the research conducted in small, middle and big Croatian companies in 2018 determined their level of BPO and their use of process IT. It can be concluded that there is a statistically significant connection between IT and BPO and that the calculated correlation is strong. Also, it is proven that the use of IT has positive influence on BPO practice. Furthermore, it is shown that the trend of BPO exists in Croatia, but there is a lot of potential for further development, especially in the field of business process informatization which is still inadequate. So, the discovered knowledge about BPO and process IT can be used as a set of practical guidelines for any Croatian company that strives to achieve more efficient business processes.

Key words: Business processes, business process orientation, information technology, empirical research, Croatian companies.

1. Introduction

Companies are continually under competitive pressure and forced to re-evaluate their business models and underline business processes (Škrinjar, Indihar Štemberger and Hernaus, 2007, 15). Zairi (1997, 73) defines a process as an approach for converting inputs into outputs. It is the way in which all the resources of the company are used in a reliable, repeatable end consistent way to achieve its goals. A business process is a coordinated chain of activities intended to produce a business result or a repeating cycle that reaches a business goal (Pourshahid, 2008, 11). The functional approach creates barriers to achieving customer satisfaction (Zairi, 1997, 74) and that is why today′s companies, in order to stay competitive, become more and more process oriented. The extensive literature and former research

conducted by McCormack and Johnson (2001, 47) and Kohlbacher (2010, 141) suggest that companies can enhance their performance by becoming process oriented. Furthermore, the more business process oriented the company is, the better it performs both from the perspective of the employees as well from an overall perspective. Reijers (2006, 399) interpreted BPO as the organizational effort to make business processes the platform for organizational structure and strategic planning. A process oriented company is according to Hammer (2007, 26) referred as process enterprise or according to Gardner (2004) as process focused company. Although the definitions of the BPO vary, in this paper the McCormack's and Johnson's (2001, 71) definition of process oriented company is adopted: the company that emphasizes processes as opposed to hierarchies with a special emphasis on outcomes and customer satisfaction (McCormack and Johnson, 2001, 82).

The practice shows that bearing in mind the multifaceted nature of business processes, and the relevant requirements of BPO companies, especially as far as information issues are concerned, it can be said that current IT, can be viewed as an enabler for business processes (Chalikias, Valiris and Chytas, 2003, 149). The lack of appropriate IT can hinder a BPO attempt quite significantly; in fact, it would not be an exaggeration to suggest that if IT is not employed in an effective manner, any attempt to embark on implementing business processes would be likely to fail (Darnton et al., 1997, 14). Further from the enabling role of IT for realising business process orientation, it should be mentioned that IT could also have a driving role in the discussed area. IT should exist within a support framework for doing business and business should not be organised according to the occasional availability of technology, but according to planned strategies and pursued goals (Chan, 2000, 231).

Referring to everything stated the goal of this paper is to empirically investigate the relationship between IT and BPO. The first chapter presents an introduction into the topic. The second chapter describes the concept of BPO. The third chapter offers an overview of IT for BPO. The fourth chapter presents empirical study of using process information technology in big, small and middle sized companies in Croatia and explores the relationship between IT and BPO. Also, it gives a discussion and the analysis of obtained results. The final, fifth chapter emphasizes the concluding remarks and the research contribution of this study, but it additionally provides the research limitations and the guidelines for future research.

2. Business process orientation

BPO can slim down operational costs, promote customer relations through satisfying customer needs better and increase employee satisfaction (Škrinjar, Indihar Štemberger and Hernaus, 2007, 13). As this is a complex process done over a long period of time, companies can attain various degrees of BPO acceptance through adjustments of their business processes. As processes mature they move from an internally focused perspective to an externally focused, system perspective. A maturity level represents a threshold, that when reached, will institutionalize a total systems view necessary to achieve a set of process goals (McCormack and Johnson, 2001, 74). Achieving each level of maturity establishes a higher level of process capability for the company. In the current business environment, there is no scarcity of process maturity models (Milanović Glavan, Bosilj Vukšić, Vlahović, 2015, 210). For the purpose of this research, the BPO maturity model and assessment instruments from McCormack (2001, 81) was used as a starting point and adapted as needed for each individual research objective. The McCormack construct (2001, 55) describes a four-step pathway for systematically advancing business processes along the maturity continuum ("AdHoc", "Defined", "Linked" and "Integrated" level). Each step builds on the work of the previous steps to apply improvement strategies that are appropriate to the current maturity

level. The following definitions for the levels that the company goes through when becoming BPO are provided (Lockamy and McCormack, 2004, 276):

(1) AdHoc, the model's first level, is characterized by poorly defined and bad structured practices. Process measurements are not applied. Also, work and organizational structures are not based on the horizontal process. Performance is unpredictable and costs are high. Cross-functional cooperation and client satisfaction levels are low.

(2) At the second level, Defined, basic processes are defined and documented. There is neither work nor organizational structure alteration. However, performance is more predictable. In order to overcome problems in the company, considerable effort is required, and costs remain high. Client satisfaction levels improve but still remain low if compared to levels reached by competitors.

(3) At the third level, Linked, the organizational structures become more horizontally prepared through the creation of authorities that overlooks functional units. Efforts for continuous improvement are made aiming to stop problems in the early phases and thus achieve better performance improvement. Cost efficiency grows and a client starts to get involved directly in the improvement efforts of intra-organizational processes.

(4) At the fourth level, Integrated, the company, its vendors and suppliers, take cooperation to the process level. Organizational structures and jobs are based on processes, and traditional functions begin to be equal to process. Process measures and management systems are deeply imbedded in the company. The company, its suppliers, and clients strategically cooperate. The process improvement objectives are geared towards teams and well reached. Costs are dramatically reduced, and client satisfaction, becomes a competitive advantage.

There are many interpretations of what BPO entails (Davenport, 1993, 14; Hammer and Champy1993, 29; McCormack and Johnson, 2001, 57). While each interpretation stresses several important points it also neglects other ones. Based on our extensive literature review we synthesize different viewpoints of BPO into a comprehensive BPO model that takes into account majority of dimensions, frequently mentioned in literature. In order to analyze and improve BPO companies need to take the following dimensions into account:

1. Strategic view;
2. Process identification and documentation;
3. Process measurement and management;
4. Process oriented organizational structure;
5. Human resources management;
6. Process oriented organizational culture;
7. Market orientation;
8. Supplier perspective;
9. Process oriented information technology.

3. Process oriented information technology

Many authors recognise the benefits of using IT in developing process orientation (Davenport, 1993, 17; Bosilj Vukšić et al., 2008, 94; Kueng and Hagen, 2007, 483). Davenport (1993, 51) writes about the positive effects of applying IT to support business processes realisation. According to him, IT enables: business processes automation, business processes duration reduction, easier collection, storing and delivery of information through forming repositories of business processes, monitoring and surveillance of business processes in real time, timely interventions, analysis of high amount of data and connecting activities in the business process. IT enables better process practice and is an essential and inevitable support to BPO. Processes and IT are strongly interrelated, and process-oriented companies inevitably need tools to manage their business processes in an automated way.

IT oriented towards business processes, i.e. process oriented information technology, includes

(Bosilj Vukšić, Hernaus, Kovačič, 2008, 77):
(1) Business process modelling and analysis tools;
(2) Business process management tools;
(3) Business process management systems.

3.1. Business process modelling and analysis programme tools

Business process modelling and analysis tools are programme solutions used by managers, IT experts, analysts and end users in order to create business process models within the company. From the functionality perspective, these tools enable users to document the existing situation, to model proposals for improvements and to calculate the expected effects of the proposed changes (Bosilj Vukšić et al., 2008, 96). Generally, it can be said that all process modelling and analysis tools generate business process maps that represent events, activities and conditions. Basic functionalities of business process modelling and analysis programme tools include: documentation of business process architecture; a series of methods for business process repository development; business process analysis and process improvement proposals design; creation of the base for information system development. It is important to emphasise that there is no best business process modelling and analysis tool. There are many modelling and analysis tools which are specialised for certain groups of users and business fields. Since so many tools have been available lately, developing a basic tool with a series of additional modules has become a trend (Lončar, 2008, 17). It attempts to meet the needs of all groups within the company in all business fields. Regardless of the growing number of "all-in-one" solutions, a company should choose a tool that corresponds to the company's own, specific needs.

3.2. Business process management suites

A few key technologies enable managers and process owners to directly control and manage the business process execution. These technologies have converged into a group of software tools called Business Process Management Suite. Business process management tools differ in possibilities, reliability and compliance with information standards as well as price. Deciding which one to buy is very difficult because the business process management tools market is relatively young and potential users lack practical experience that could be used as a guideline in choosing appropriate tools. But whichever business process management tool a company chooses, it will equip its managers with a tool for an efficient coordination of resources needed for business process execution. Furthermore, it will contribute to informatization and automatization of activities and increased performance.

3.3. Business process management systems

A business process management system (BPMS) is a platform for connecting a company's architecture, business process models, business flow management systems and information infrastructure in order to support the execution of business processes (Kueng and Hagen, 2007, 483). BPMS is an application solution enabling organisations to realise their process orientation using IT. According to most authors, process orientation implies that the company uses a BPMS to integrate people, systems and data. BPMS is an integrated group of software technologies which enable process transparency while simultaneously improving business processes and current task management.

A significant number of factors influence the success of a BPMS implementation. According to Parkes (2002, 371), process orientation of a company is an important factor influencing BPMS implementation. More precisely, as shown by practice, literature and research, a lack of process orientation causes various problems which influence the speed and costs of implementing BPMS. Since such systems facilitate business processes within an organisation

and interdepartmentally, it is crucial for the organisation to recognise the processes as tools that can be used to increase the organisation's effectiveness. The development of a BPMS is expensive and complex. It sets high demands on project participants, and its success does not depend solely on the chosen it. The support of management to the implementation of the necessary organisational changes also plays an important role (Willaert and Willems, 2006, 17). The application of BPMS overcomes the existing gap between strategic planning, introduction of a new business model and development of business process models in relation to the development of appropriate programme solutions involving IT experts (Bosilj Vukšić, Hernaus, Kovačič, 2008, 88). The aim of BPMS is to enable monitoring of critical business and success indicators in real time so that business performance and the speed of reaction to change could be improved.

4. Empirical research: Investigating the relationship between information technology and business process orientation

The aims of the conducted research were to empirically study the level of process orientation and the practice of using IT for BPO in Croatian companies and to test the relationship between IT and BPO.

4.1. Description on survey, data and methods

In order to carry out the empirical study a questionnaire was developed based on the original research of process orientation conducted by McCormack and Johnson (2001, 62). Even though their original instrument included an overall BPO construct, it was only measured with 3 dimensions. As the goal was to tap deeper into the problem the given construct was enlarged. It contained 60 questions regarding BPO characteristics. The questions were distributed across the 9 domains: Strategic view (5 questions); Process identification and documentation (6 questions); Process measurement and management (10 questions); Process oriented organizational structure (7 questions); Human resources management (5 questions); Process oriented organizational culture (6 questions); Market orientation (7 questions); Supplier perspective (3 questions); Information technology (11 questions). Each question describes a particular BPO characteristic and/or business practice considered important within each domain. The degree of presence of these characteristics in the company was measured on a 7 point Likert scale (1=Strongly disagree, 2=Disagree, 3= Disagree more than agree, 4=Neither agree or disagree, 5=Agree more than disagree, 6=Agree, 7 =Strongly Agree). One of domains of process orientation is IT and it is the important domain for the topic of this paper.

The main source of data about Croatian companies was the database of The Institute for Business Intelligence and the questionnaire was sent randomly to the 1200 companies in 2018. The questionnaire was addressed to the CEOs or the chairpersons of the companies who were instructed to fill out the questionnaire themselves or give it to a competent person within the company. The collected data were processed on a personal computer using Statistical Package for Social Sciences (SPSS). A variety of regularly used statistical approaches, were applied to data analysis: descriptive statistical analysis of collected data, descriptive analysis of mutual relationships among individual variables and the analysis and testing of statistical relationships among selected variables. 127 completed questionnaires were returned, so the final response rate was 10.58%. The selected companies were analysed according to the number of employees. In the resulting data set 40 companies had between 1 and 50 employees, 44 companies had between 50 and 249 employees and 43 companies had 250 or more employees (Graph 1). Approximately the same number of small (31%), medium (35%) and large-sized (34%) Croatian companies participated in the research.

Graph 1: Number of companies in the sample by number of employees
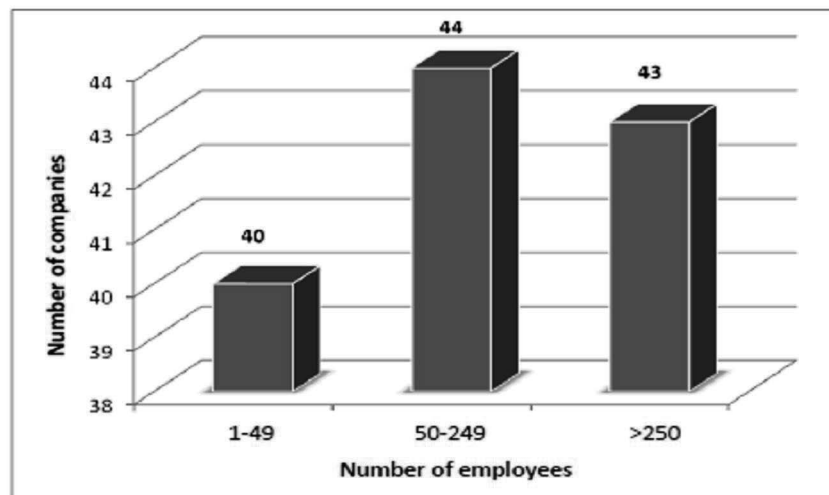
Source: Author's calculation

Companies from all sectors participated in the research, so all business sectors are appropriately captured in the data sample. The most common trade of business in data set was Financial and insurance services (16.53%). It was followed with Manufacturing (15.75%), Trade (11.81%) and Information and communication services (11.09%). 44.82% of the companies in the sample represented other sorts of business. Thus, the sample is an adequate representation of the population of big, small and medium sized Croatian companies from all sectors.

4.2. Results and discussion

Before all, the compound measure of BPO construct was analysed, which revealed the overall state of BPO. This was done by calculating the average grade for each domain of the questionnaire. The compound measure of the BPO in Croatia is 4.84. By using cluster analysis for previously published paper (Milanović Glavan, Bosilj Vukšić and Vlahović, 2015, 213) values were mapped in order to assess the level of BPO for each data set record (Table 1).

Table 1: BPO level mapping

BPO maturity level	Likert scale values
AdHoc	1.0-3.9
Defined	4.0-4.8
Linked	4.9-5.6
Integrated	5.7-7.0

Source: Author's calculation

Based on the compound measure of BPO and calculated values of BPO levels for data from this research it can be concluded that Croatian companies are between the Defined and Linked stage of BPO. Companies with that kind of level of BPO have well defined and documented processes, but don't realize that these business processes are connected.

Furthermore, the analysis has shown that the process information technology with its average grade of 4.18 is the worst rated domain of process orientation (Graph 2). Clearly, improvements are needed in that dimension. The low grade obtained for process information

technology dimension results from the fact that informatization of Croatian companies' business operations is primarily based on business functions, and not business processes. Business operations need to be based on processes if they are to be automatized through information technology.

Graph 2: Average grade for all BPO domains
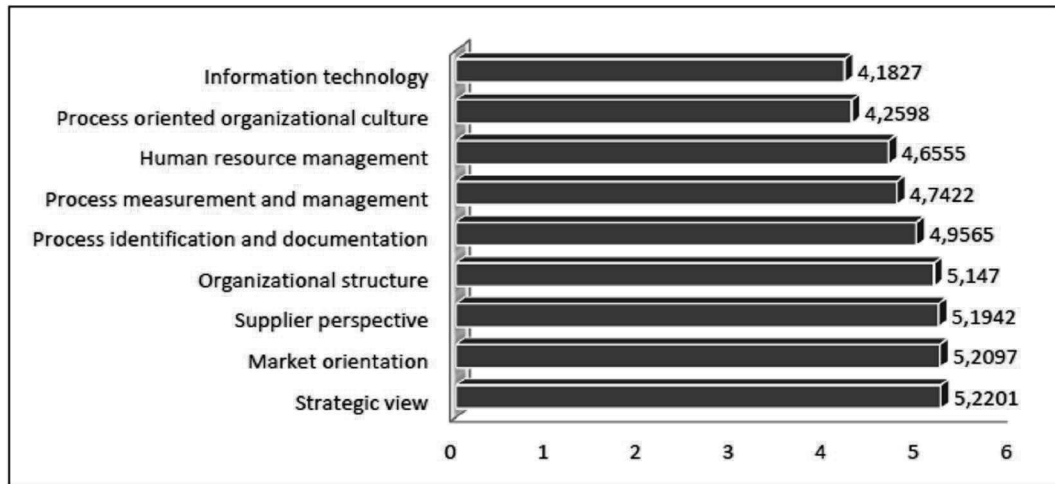
Table 2: Average grade per each question about process information technology domain

Process information technology	Average grade
Business informatization is based on processes (not on business functions)	4.88
Our information system provides the management with relevant information on business processes effectiveness.	4.88
Our information system is flexible and adjustable to business process change.	4.66
An organization uses special programme solutions for customer relationship management.	4.03
An organization uses some aspect of e-business.	3.86
An organization has document management system.	4.62
An organization uses specialised business process modelling and analysis programme tools.	3.62
An organization uses specialised business process management tools.	3.44
An organization applies business process management system.	3.56
An organization uses business intelligence programme tools for measuring business performance.	3.65
An organization applies an integral system for business process management.	4.25

Detailed results on process information technology (Table 2) show that the weakest points of Croatian companies are: the use of BPMS (3.56) and the implementation of business processes modelling and analysis tools (3.62) which is disappointing. A number of average grades are not logical. For instance, the question on specialised tools for business process modelling and analysis was graded with lower grades than the question on application of an integral BPMS. The assumption is the following: the question was answered by the companies' managers who are not well informed on operative business process modelling and analysis tools (this is also confirmed by many unanswered questions on the issue). In the future, the use of information technology for BPO will need to be intensified. That kind of

technology contributes to the organisation's value by coordinating its processes, and giving managers modes for efficient coordination of all human and technological resources needed for execution of individual business processes.

Among the companies that have business process modelling and documenting tools, only 45.1% use them regularly and 54.9% use them occasionally or rarely. The level of BPMS use is no better. Only 48% of companies use them regularly, and 52% companies use them occasionally or rarely. As far as the business process modelling programme tools are concerned, Croatian companies most often use ARIS Toolset (mentioned in 5 cases), SharePoint (3 cases) and IBM BPM (2 cases). As far as the BPM tools are concerned, Croatian companies most often use ARIS (mentioned in 4 cases), MS Dynamics NAV (3 cases) and IBM WebSphere Business Integration Suite (2 cases).

Everything mentioned above shows that the use of IT must become imperative for Croatian companies. Also, in literature IT is stressed as a factor that enables BPO (Davenport, 1993, 36; Smith and Fingar, 2002, 102) and that is why we wanted to empirically examine the relationship between IT and BPO. For that purpose we have conducted correlation analysis between those two variables (Table 3).

Table 3: Spearman's correlation between IT and BPO

		IT	BPO
IT	Correlation	1	0,702
	p - value		0,000
	N	127	127
BPO	Correlation	0,702	1
	p - value	0,000	
	N	127	127

Source: Author's calculation

The value of Spearman's correlation coefficient is 0.702 with p-value 0.000. So, it can be stated that there is significant and positive connection between IT and BPO and according to Guilford table that kind of correlation is strong (Šošić, 2006, 136).

Empirical analysis showed that there is a strong connection between IT and BPO and that is why additionally we wanted to examine if IT influences BPO of the company. For that test regression analysis was used, where IT presented independent variable, while BPO presented dependent variable (Table 4).

Table 4: Regression analysis

Coefficients[a]							
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95,0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
1 (Constant)	2,994	,186		16,072	,000	2,625	3,362
IT	,441	,042	,684	10,490	,000	,358	,524

a. Dependent Variable: BPO

Source: Author's calculation

Conducted analysis showed that the value of Durbin-Watson test is 1.852 and that means that the problem of autocorrelation does not exist. IT as an independent variable is significant at 1% level of significance and the estimated parameter is positive with value of 0.441, which means that IT has positive influence on BPO. Or in other words, using IT leads a company to higher levels of BPO.

5. Conclusion

Previous research and literature review have shown that IT is one of the crucial components of BPO implementation and practice. So, the main goal of this study was to examine the state of BPO and the use of process information technology in Croatian companies. The conducted research shows that companies in Croatia are between the Defined and Linked levels of BPO and that IT is the worst rated dimension of process orientation. Also, it shows that there is a strong relationship between IT and BPO and that IT has positive influence on BPO.

The collected data offer important implications for research and practice. Based on given research results conclusion is that companies from the sample could achieve higher levels of process orientation if they use process information technology more. So, discovered knowledge about BPO and process information technology can be used as a set of practical guidelines for any Croatian company that strives to achieve more efficient business processes and the results of the survey presented in this paper could provide a solid basis for further research in the field it addresses.

However, conducted research had some potential limitation. One of the limitations of this research is the fact that small, medium and large-sized companies participated in the research, and it is logical that there are great differences in BPO practice among such companies. Also, another limitation refers to the fact that the use of the questionnaire and the Likert scale lead to certain subjectivity. Furthermore, the inability to verify the truthfulness of replies certainly presents a disadvantage. Sometimes, respondents simply did not understand the questions correctly as they are unfamiliar BPO terminology.

In the future, the conducted research could be expanded by using in-depth interview methods in companies, which would help prevent misunderstandings and subjectivity of respondents during the replying process. Conclusions reached in that way could be even more objective and relevant. Furthermore, this research could encourage other similar research, which would eventually contribute to the development of this field.

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STRATEGIC PLANS AND TOURISM DEVELOPMENT IN HALF CENTURY PERIOD: THE CASE OF DUBROVNIK-NERETVA COUNTY

ABSTRACT

The aim of this paper is to examine and compare strategic development plans related to tourism development planning of Dubrovnik-Neretva area from the 1960s to 2022. This study aims to investigate the impact of strategic documents on tourism development in the analysed half-century period. The level of tourism development planning in the observed period, the existence of connection between tourism planning and realised tourist arrivals and the level of implementation of those strategic documents will be analysed. Understanding the importance of planning and monitoring tourism development is essential since the plan as a document is meaningless if there is no implementation.
A desk research method was used to process secondary data, with special emphasis on the historical method. The main Strategic documents relevant for this area have been analysed to find out how tourism development of Dubrovnik-Neretva area was included in documents.
The findings indicate the inexistence of compliance between strategic documents and actual tourism development. The direction of tourism development is not clearly defined. There is connection between current political authority and strategic development plans related to tourism. A state of confusion is reached; the direction being taken is interrupted and gets a new direction resulting in a loss of time, resources and overall quality.

Key words: *strategic plan, tourism development, Project South Adriatic, Dubrovnik – Neretva area, Croatia.*

1. Introduction

This paper deals with strategic documents of tourism planning and development related to Dubrovnik-Neretva area. An initial literature review relates to tourism development planning describing the theoretical determinants. These backgrounds are well supported with corresponding empirical evidences. Since the tourism has become the main driver of Croatian economic development, it should be very carefully planned at national, regional and local levels. Considering that, theaim of this paper is to examine and compare strategic development plans related to tourism development planning of Dubrovnik-Neretva area from the 1960s to 2022s and to emphasize the importance of implementation and evaluation. The main problem was to track the data until the Independence of the Republic of Croatia. The units of local self-

government (counties) were established in 1993 and since then the territorial borders haven't changed.

First section introduce the aim and goes through the literature review of tourism planning and development. Section three is related to tourism planning and development in Dubrovnik-Neretva area in the half-century period. Next section deals with the tourism planning in the period from 1960s to 1990s, and section five considers the actual tourism planning and development from the Independence till 2022s. The last section is conclusion with ends and remarks.

2. Literature review

With the development of civilization, technical and technological breakthroughs, the requirement for planning has become increasingly apparent in everyday development including economic, cultural and social aspects. Different authors have different approaches to the concept of planning. Buble (1990, 16), defines planning as a creative process that determines in advance the direction and action of an enterprise, while Cole (1990, 114) defines planning as an activity that involves decisions related to goals, resources, behavior and results. The most comprehensive definition presents planning as a process of strategic determination of measurable goals and actions that a person, organization, or community would like to meet with a certain given period of time; it involves the formulation of policies, programmes, projects and actions for achieving development objectives (Lifuliro, et.al., 2018, 31). The concept of tourism development planning is an equally complex and complicated process with plenty of definitions. First major works of tourism development planning appeared in 1970s (Gunn, 1972; Getz, 1986; Inskeep, 1987). According to Braddon (1982, 2) tourism development planning is closely linked to development planning in most countries of the world, and many factors need to be considered, from topography to economy, welfare, tourists needs and the needs of the local population. Murphy (1985, 156) claims that tourism development planning is concerned with anticipating and regulating changes in the system, in order to promote development aimed at maximizing the social, economic and environmental benefits of the development process., and Getz (1986, 3) defines it as a process based on research and evaluation, which optimizes the potential contribution of tourism to human well-being and environmental quality while Dulcic and Petric (2001, 349) claim that it is an amalgam of economic, social and spatial consolidations that reflect the diversity of factors affecting tourism development. Few years later, Ketter, Mansfeld and Avraham (2016, 136) explained it as a comprehensive process involving the place's characteristics, development strategy, competitive advantages, resources, tourism performance, stakeholders' interests, target markets, competitors, sustainable development considerations and other external and internal factors. To optimally use, but not overuse existing resources of a destination, tourism planning should be seen as a way to maximize the benefits for a region and to minimize the problems related to tourism development (Heimerl, Peters, 2019, 283).According to Inskeep (1991, 38), basic to understand the planning of tourism development is knowledge of the components of tourism development and their interrelationships, whereas components that should be planned are: tourist attractions and activities, accommodation, other tourist facilities and services, transportation facilities and services, other infrastructure, institutional elements.

Until the second half of the 20th century, tourism development planning was based on a partial planning approach, then begins integrated approach since tourism development planning is complicated and includes physical and institutional elements. Integral tourism planning brings together economic, social, spatial, environmental and infrastructural aspects (Dulčić and Petrić, 2001, 345). Strategic tourism planning is a part of integral planning and is important because it represents a framework designed to provide direction for any tourism organisation or

destination with an emphasis on a quality, efficiency and effectiveness (Edgell et al., 2008, 297). Strategic tourism planning is directly interconnected with sustainable tourism development. Stoddard et al. (2012) suggested that tourism development organizations should obey a triple-bottom-line framework, which includes economic, environmental and social sustainability strategies. To achieve sustainable tourism goals, stakeholders play a significant role in evaluation and at an implementation stage. Nowacki (2018, 564) improved at the example of Poland real problems with implementing the principles of sustainable tourism development and that there should be a partnership between public and private sector. Grytsiuk et al. (2017, 47) emphasized the formulation of an organizational development management mechanism of tourist destinations and the construction of a model of cooperation between government, business and society. In order to develop a sustainable tourism, Mondal (2017, 164) suggested several strategies such as planning for sustainable economic profits, notifying people about sustainable tourism, and the development of the required infrastructure. Feili et al. (2017) used SWOT analysis to define sustainable tourism development strategies in Iran which included planning the progress of transportation in the region, informing people about tourism developers' activities in the media, providing accommodation for overnight and long stays, using professional managers in various tourist places and implementing existing plans. Kişi (2019, 14) in his paper claims that sustainability is meant to consider both the development and preservation of tourism. Because of that, tourism activities need to be planned, managed and monitored carefully using a long term sustainable approach.

3. Tourism planning and development in Dubrovnik-Neretva region in the half-century period

Until 1992 there were no territorial borders or division into counties since Croatia was a part of the former Yugoslavia. After the independence gained in the Homeland War (1992), began the structure of local self-governments finally established in 1993. At that time, with the foundation of 20 units of regional self-governments (counties) plus the city of Zagreb, the Dubrovnik-Neretva County was established with its head office in Dubrovnik. Territorially, the borders haven't changed since then.

Dubrovnik-Neretva County is the southern county in the Republic of Croatia and is territorially divided into 22 units of local government and self-government. It is the farthest from the Zagreb, the capital of the Republic Croatia. Economically important infrastructural facilities are the Dubrovnik airport and the international maritime ports of Dubrovnik and Ploce, the Peljesac Bridge (in the process of building), and the modern roads (still under construction). The economy of the Dubrovnik-Neretva County is predominantly oriented towards hospitality and tourism, less to agriculture that has great potential (Neretva, Ston and Konavle) or shipping (Korcula). Construction has increased considerably, and due that the real estate business has also increased, which is related to tourism growth. However, tourism is not strong enough to launch entirely economy through its multiplier effect.

Considering tourist arrivals and overnights, according the Central Bureau of Statistics, in 2019 were realized 2.285.774 tourist arrivals and 8.974.200 overnights. Analyzing the real situation, tourist traffic has been continuously increasing for the last ten years. The Figure 1 shows the number of arrivals and overnights in the Dubrovnik-Neretva area from 1985 to 2019.

Figure 1: Tourists arrivals and overnights realized in Dubrovnik-Neretva area in period 1985-2017
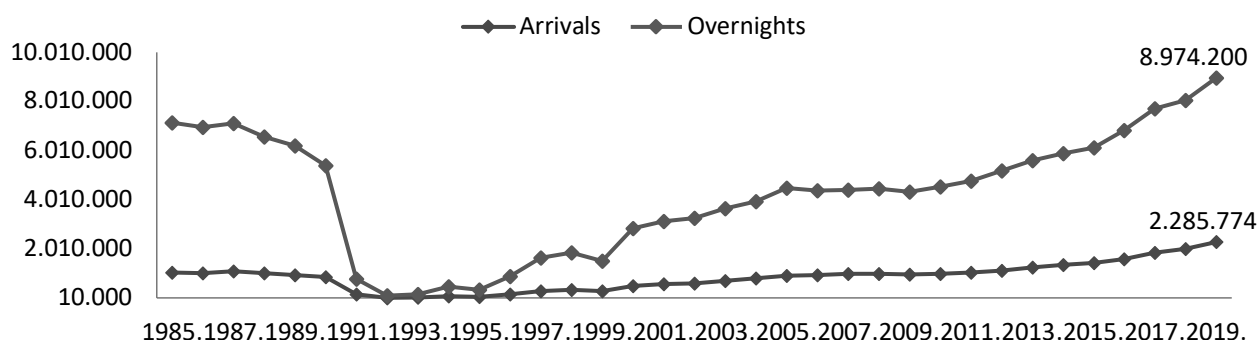
The analysis refers to a period of 34 years in order to show tourists circulation before, during and after the Homeland War. The number of tourists in 2014 was approximately the same as the number of tourists in the pre-war period (1985-1988). The war caused a drastic fall and decreased the number of domestic and foreign tourists. After 1999 the situation was improving, until 2009 where has been decline in tourism demand. The continuity of growth increased following years with an increase of almost 26% compared to 1985.

Investments have grown, mainly in accommodation capacities, tourist offer and overall quality. The dominant tourist centers are Dubrovnik, Konavle and Orebic – 69.93% of all overnights in Dubrovnik-Neretva area are related to them (www.dzs.hr). The most underdeveloped tourist area are municipalities in the Neretva scope, although the situation is trying to change through the offer of full-day trips.

In terms of accommodation, private accommodation still dominates, although hotels and apartments in the Dubrovnik-Neretva County are above average in relation to the national average (Figure 2).

Figure 2: Accommodation capacities in Dubrovnik-Neretva County in 2018

The share of camps in the total accommodation is 10%. There is lagging behind the offer due to the seasonal nature of the business. There are unused capacities in the County that could take a larger share of the existing structure.

As a part of tourism demand the Figure 3 shows the cruise ship passengers from 2007 to 2019 as well as cruise calls.

Figure 3: The number of cruise passengers and cruise calls in a period from a 2007 – 2019
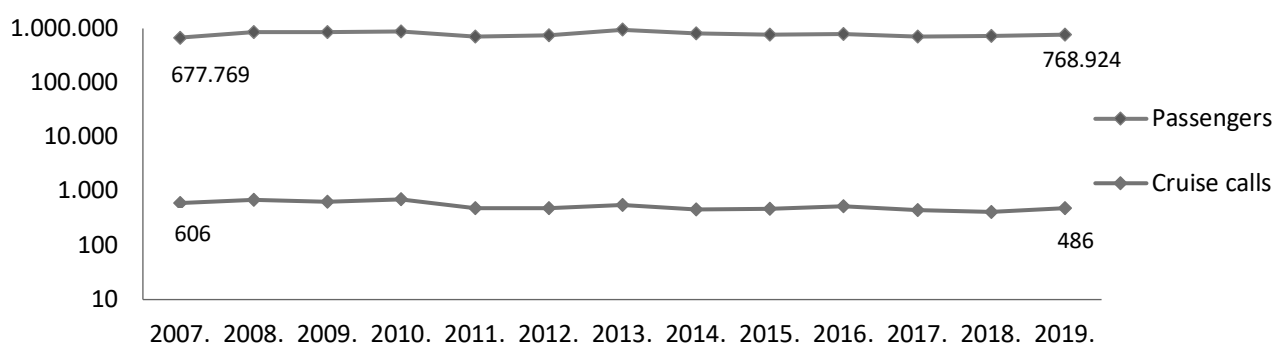
Source: Dubrovnik Port Authority, http://www.portdubrovnik.hr/statistika/?idKat=8&godina=2019, access: 21 February 2020

The data refers to Port of Dubrovnik as the biggest one in Dubrovnik-Neretva County. Number of cruise calls decreased, but the number of passengers increased as a result of the arrival of larger cruises with more passengers. It is evident that there are some fluctuations in the number of cruise calls and passenger traffic.

Considering the air transportation, Figure below indicates the number of domestic and foreign passengers from 1985 to 2019.

Figure 4: Number of domestic and foreign passengers in Dubrovnik airport from 1985 to 2019.
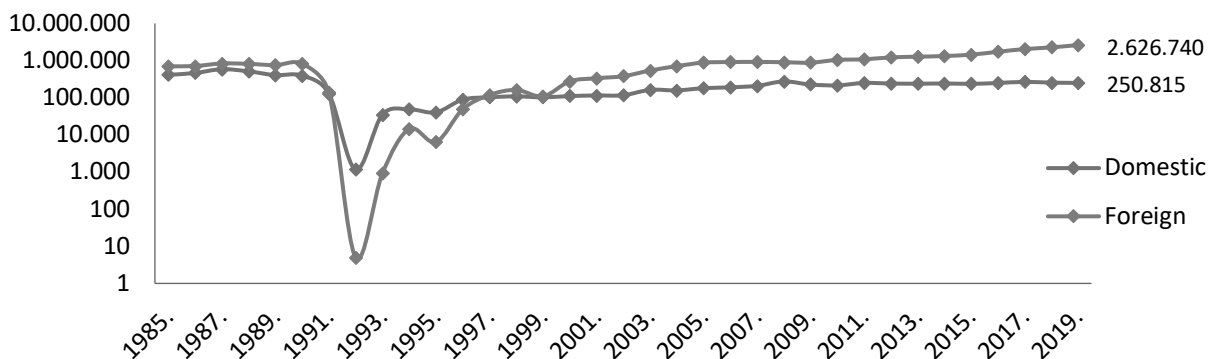
Source: https://www.airport-dubrovnik.hr/index.php/hr//o-nama/poslovne-informacije/statistika, access: 22 February 2020.

In a view of the complete transport infrastructure and connectivity, it's reasonable to be oriented towards the air transport, although it is necessary to proceed urgently with construction of the Highway to Dubrovnik.

After previous analysis, the question is if there exist a coordination between tourist traffic and existing tourism development documents. Besides, it is important to determine whether such development has occurred autonomously under the impact of changes in tourism demand, or whether there have been impacts of certain tourism development planning documents.

The processed tourism development documents are shown in Table 1 refers to modern tourism up to present.

Table 1: Overview of development documents related to tourism – period from 1960s to 2022s in Dubrovnik-Neretva area

No.	Document's name	Application period	Bearer	Year of origin
1.	Social plans for the development of Kotor and the Dubrovnik economy from 1961 to 1990	1961-1990	The National Board of the Dubrovnik Municipality	1961
2.	The Southern Adriatic Project	1968-1990	Government of the Socialist Federal Republic of Yugoslavia, United Nations, Urban Institute of the SR Croatia - Zagreb, Republic Institute for Urban Planning of Montenegro - Titograd, Urban Planning Institute of SR BiH - Sarajevo, Institute for Tourism Economics - Zagreb, International Consultative Consortium-Tekne -Milano -CEKOP- Warszawa	1968
3.	Development of Dubrovnik	1973	Department of Economics and Planning Dubrovnik	1973
4.	Analysis of the achievements of the current social development plan-Municipality of Dubrovnik	1976–1980	Bureau of Social Planning, Dubrovnik	1979
5.	Possibilities and directions of development of the Adriatic Islands	1983	University of Zagreb-Faculty of Economics and Business, Zagreb, Institute for Economic Research	1983
6.	Concept of tourism development in FR Croatia until 1990	1985–1990	Croatian Chamber of Commerce Tourism Working Group	1985
7.	Tourism Development Program for the Dubrovnik Municipality for the period 1986 to 1990	1986–1990	Department for Social Planning, Economics and Statistics of Dubrovnik Municipality	1986
8.	Economic Recovery Program in War-affected Areas of Dubrovnik-Neretva County	1996	County Economic Office, EFECT d.o.o. for auditing and economic consulting	1996
9.	National Island Development Program	1996	Republic of Croatia, Ministry of Development and Reconstruction	1996
10.	Spatial concept for tourism development-The region South Dalmatia - Regional Tourism Masterplan	1991–2010	DEG - Deutsche Investitions und Entwicklungsgesellschaftmbh, Köln	2003
11.	Development Strategy of Dubrovnik-Neretva County	2001–2010	Faculty of tourism and foreign trade, Dubrovnik	2002
12.	Tourism Development Strategy Dubrovnik-Neretva County	2012–2022	Physical Planning Institute of Dubrovnik-Neretva County; Horwath&Horwath Consulting Zagreb d.o.o., Member of Horwath HTL	2013

Source: Author's research

Of these, only those directly related to tourism development were analyzed for the Dubrovnik-Neretva area (today's Dubrovnik-Neretva County).

4. Planning in the period from the 1960s to 1990s

4.1. The Southern Adriatic Project

In the former Yugoslavia, there were no development strategies focused on tourism, projections were based on plans and programs made for specific locations and time period. Southern Adriatic Project is the oldest available strategic document related to the Southern Adriatic within which Dubrovnik-Neretva area is located. The emphasis of this analysis is on the area around Dubrovnik in order to visualize the former physical and spatial development. The document specifically analyzes the coastal area and the hinterland. First part of the document refers to natural geographical characteristics *(Regional Spatial Plan of the South Adriatic A, 1.1.4.2.)*, with the emphasis on Dubrovnik that was already highly tourist valorized and recognized as a potential worth of investing and realizing the basic interests of the country. The Ston area was characterized as a transition space from agrarian-livestock to tourist attraction as a brand new tourist area that stumbles upon initial difficulties. With regard to urban planning regulations in 1996 that required detailed information on seismic characteristics of the land, there was an intention to create a seismic map based on geophysical observations and engineering-geological and hydrogeological characteristics of the soil, so that earthquakes could be approached differently during design and construction. It was a good idea whose realization would avoid disaster in the form of economic and financial losses since the extremely strong earthquake in 1996 hit the Ston and the surrounding areas. In a component of agriculture *(Regional Spatial Plan of the South Adriatic A, 1.1.4.3)* it justified the production of the Southern Adriatic characterized by poor development, low labor productivity, fragmentation and generally poor organization. The potential was evident in horticulture, fruit and wine growing, meat, milk and cereals production. In relation to forests, there were many recommendations related to financing the conservation and legal protection in the coastal zone as a natural resource for tourism development. That document represented a certain type of sustainable development that would take care of tourist areas, complete environment and construction of all buildings and types of buildings. According to Maritime Economy *(Regional Spatial Plan of the South Adriatic A, 1.4.6)* the plan was to establish a department for nautical tourism at all tourist instances and organize the reception of large cruise ships in order to harmonize the existing yachts regulations and the regulations of neighboring countries, to stimulate the development of tourism excursions at sea, with nautical tourism in the tourist offer. Comparing with today's nautical tourism development, the situation is not satisfying due to the confusion and inadequate legislation, and the result is annually loss. The laws are incomplete and contradictory, the infrastructure of marinas, dry marinas, nautical ports and needed supporting infrastructure are not at the required level, the standards have been uphold by private firms so far. Lukovic (2017) wrote about disorder on maritime good and nautical tourism in Croatia, directly criticizing the authorities and asking for clarification of certain laws. Conclusions of the basic study Social Standard and Services – Recreation (1968) were related to recreation planning criteria based on the natural conditions. Dubrovnik, followed by Makarska, Hvar, Korcula, Budva and Ulcinj create mutually different tourist centers in the Southern Adriatic. Thus, it is proposed to build a specially equipped marina at Korcula, as well as a Sport Center for various courses, seminars, schools and events. The biggest disadvantage was the lack of planning at micro level. The supply was mostly spontaneous without market research, real needs of the local population and forecasting trends. In case of transport (Regional Spatial Plan of the South Adriatic A, 1.4.9) it implied major investments and coordination of all component authorities and investors, modernization and road constructions. Today in 2020, the highway has reached Ploce and it is unknown when it could reach Dubrovnik, the Peljesac Bridge has begun construction to connect the territory of the Republic Croatia, but the construction of access roads are still underway, the national road is being renewed every year before/during the season. The problems related to transport are investments and the lack of

implementation of the existing Transport strategy. Mentioning the improvement of landscape and nature protection (Regional Spatial Plan of the South Adriatic A, 1.4.11) it was recommended for entire southern Adriatic area to be given the status of complex protection of the entirety of the area with the laws considering spatial planning and land use with the establishment of tourist forests for the purpose of commercialization. Today, there is a high level of construction, floods regularly occur during rainfalls, almost all green areas were concreted, which made it impossible for the ground to naturally absorb excess of water. The coast is devastated and overcrowded. Last afforestation was after the giant fire in Peljesac in 2015, not for the tourist purposes but for significant loss of landscape. Considering the currently available parts of the Southern Adriatic project, a view of the spatial and urban plans and a detailed analysis of the situation in the above mentioned segments were visible, as well as guidelines for further development were quite general. The total value of the project was $ 6.952.000.00 and became only a partial basis for the following development plans, of which unfortunately, little has been realized.

4.2. Tourism Development Program for the Dubrovnik-Area in the period 1986-1990

A document referred to the wider Dubrovnik area with the main goal: reach the level of tourist construction, supply and market position of Dubrovnik and its surroundings. The total space capacities were estimated at approximately 80.000 of which nearly half of them were built by 1986. The document relied on domestic and foreign capital, bank loans, lease funds and private capital. The intention was to accelerate the development of socialist self-governing socio-economic relations, and it should have been realized through tourism system. The comparative advantages of tourism from that time were materially confirmed through significant economic valorization of natural and cultural-historical resources, tourist facilities and attractions with acquired professional experience. According to documents data, there were 905.156 tourists in the Dubrovnik area, with 5.868.240 overnights. 55.3% were in hotel accommodation with 53% overnights. 45.7% tourists were in the complementary accommodation with 47% overnights which means that tourist demand has increased. According to existing projections, the following insights were: in 1990 from 55.309 accommodations, the Dubrovnik area could reach the level of 67.058 accommodations, within which 24.658 beds would apply to hotels. It was thought that the expected increase in tourist demand would result in the occupancy of the total capacities from 106 days to 123 days in year, and hotel ones from 175 to 180 days. The projection was that it would brought nearly 1.33 million visitors, generating 8.26 million overnights. Tourism spending should have been doubled with annual rate growthof 15%, average daily consumption of 7.3%, which meant daily average consumption of $51. The hinterland of the Dubrovnik should have been a potential for excursion through which rural and gastro-tourism would be especially developed. Out of season, the focus was on developing health tourism with spa and recreational facilities. The Medarevo meant to be a New Medical Center, the Dubrovnik Littoral and Cavtat were supposed to offer rheumatic treatment services (medical mud). The potential in the congress tourism was recognized and it was proposed to raise the level of technical equipment of congress facilities. Through the development of nautical tourism, it was intended to increase nautical capacities. A marina with 250 berths should have been built in the port of Gruz, with 300 in Slano, and the existing marina in Komolac should have been expanded by 300 berths while in Korcula there was a possibility for construction of a smaller or medium marina. Smaller ports were provided at Kolocep, Sipan, Mljet, Lopud and Ston. The following problems were identified: human resources in tourism, growth of tourism economic activities - trade, agriculture, fishing and shellfish, municipal organizations, development of social activities, tourism infrastructure - commercial infrastructure, energy, roads, water management, air and maritime transport, PTT transport and

communal infrastructure, organization, self-governing organization, business organization, informatization, tourist propaganda. For each of these problems, a solution was proposed as well as project implementation measures. The entities that should be involved in proposed measures and activities were registered. Some of the projects mentioned above started their realization, the funds were secured. However, there was a period of the Homeland War, which significantly influenced the plans, strategies and development documents. As Croatia became independent, there were changes in the territorial structure, the legislative and development in general. It can be said that this was one of the first documents that can be identified with the content of today's development strategies.

5. Planning from the 1991s to 2022s

5.1. Economic Recovery program of the War-Affected Areas for Dubrovnik-Neretva County

In the Homeland War, the county's economy was degraded, as well as tourism, which is understandable and expected. According to the Law of the Counties, Towns and Municipalities in the Republic of Croatia (NN, 86/06), the structure of the current system of local self-government began in 1992 with the foundation of a basic legislative framework, and was established in 1993 when and Dubrovnik-Neretva County was set up. Due to war and the independence, the whole concept of planned tourism development and economy was automatically changed. Everything was destroyed and the changes were huge because it had to start from the beginning.Therefore, this section at first analyzes the document "Economic Recovery Program for the War-Affected Areas of Dubrovnik-Neretva County", originated from 1996. The areas covered by the document were the City of Dubrovnik, Konavle and Ston Municipalities, which were the worst victims of the Homeland War in County. According to the estimates of the County Commission for the Census and Assessment of the Direct War Damage for Dubrovnik-Neretva County, it amounted to DEM 643.476.000.

Table 2: Assessment of direct war damage in the area of the Dubrovnik-Neretva County in 1996.

Category:	DEM	%
Agriculture and fisheries	24.624.000	3.83
Industry and mining	48.566.000	7.55
Construction	34.413.000	5.35
Traffic and connections	219.583.000	34.12
Trade	28.541.000	4.44
Tourism and hospitality	254.715.000	39.58
Crafts	748.000	0.12
Housing and communal services	26.022.000	4.04
Financial, Technical and Business Services	3.813.000	0.59
Other	2.451.000	0.38
TOTAL:	**643.476.000**	**100.00**

Source: Economic Recovery Program for the War-Affected Areas of Dubrovnik-Neretva County 1996, pp. 6.

During the five-year period (1991-1995), due to armed conflicts and bombing, it was estimated that the County lost over 25 million overnights (if taken as the last successful year in 1990), and at an average daily consumption of €36.29 (Attitudes and Tourism Spending in Croatia, TOMAS, 2001) lost about $912 million in revenue from foreign and domestic tourism (Attitudes and Tourism Spending in Croatia, TOMAS, 1994). The basic objectives of the program were to optimize the use of all available natural, material and demographic resources, demographic revitalization, socially satisfactory population, coordinated and equitable economic activities, equalization of living and working conditions and social standard

throughout the County. It encouraged the use of the new Privatization law, which, unfortunately, was abused for many years due to its incompleteness and "loopholes" whose consequences are present till today. Program confirmed that tourism would continue to play the role of a basic economic system, aware that it should never again have a 70% share in the structure of a social product. The tourist offer should have been based through clusters: Konavle, Cavtat, Molunat, Župa dubrovačka, Dubrovnik Littoral and Elaphite Islands for developing rural tourism, Dubrovnik - cultural and historical with the inner city area as an exclusive tourist destination. The Neretva valley was excluded from this plan in a favour of developing an agricultural cluster which would, in addition to supplying the County's needs, market their products through the Republic of Croatia and neighboring countries. It was proposed to renovate and categorize the hotels according to the prescribed norms and habits of tourists. That was primarily related to the reduction in number of accommodation units, and the increase in recreational, sports, entertainment, cultural and other facilities, creating a comfortable and peaceful atmosphere, improving the quality of the overall tourist service and implementing a marketing business concept. Private accommodation and hospitality would be complied with the standardization of the quality of services, and would have a balanced and well-designed market appearance. Unfortunately, this part has been completely ignored and a contrary has been achieved. The fact is that in the Dubrovnik-Neretva County is the largest share of 5* hotels (31.8%), the number of beds are not reduced and recreational, sports, entertainment and cultural activities could be increased everywhere (https://mint.gov.hr/pristup-informacijama/kategorizacija-11512/arhiva-11516/11516, access: 1 March 2020). There is a lack of facilities designed to expand the offer and to be more competitive with world tourist destinations. When it comes to private accommodation, the absence of legal provisions and sanctions has resulted that each room, adequate or not, redefined the apartments for rent, which significantly affects the quality as well as the tourist offer. There were no restrictions and prohibitions of tourist construction, which resulted in an unplanned and half-wild environment that disturbs the autochthonous and ambient beauty of the environment. The biggest omission is in terms of nautical tourism. Even then, its development was not considered. The program covers only hotels and smaller accommodation facilities, which is only about the reconstruction and adaptation of existing facilities, which means that the real development strategy was absent, although there were data that could have been the basis for the development strategy of the Dubrovnik-Neretva County.

5.2. Development Strategy of Dubrovnik-Neretva County

In 2002, the Faculty of Tourism and Foreign Trade created the Development Strategy of Dubrovnik-Neretva County. The basic objective was to build democracy and economy, which included reaching GDP growth rate of 5% and reaching the level of approximately 40,000 employees by 2010, building a new tourist identity, re-affirming villages with agricultural development, investing in manufacturing and production-oriented entrepreneurship, expanding the urbanization processes from Dubrovnik to Metkovic, Opuzen, Ploce, Peljesac, Korcula and Vela Luka, including the county in the integrated transport and economic system, completing the reconstruction of war-affected areas and setting up an island development agency within the County that would referred to economic, demographic, social and cultural measures. Strategic goals in tourism were summarized in a few points (Dubrovnik-Neretva County Development Strategy, 2002): building a new identity and market repositioning of the County as one of the most important tourist destinations in the Mediterranean, tourism development based on sustainability, products diversification and development of selective tourism forms, improving the quality of overall tourist offer, better valorization and protection of the available resources, stable and long-term development of areas where tourism is one of the few possible

alternatives for economic development and employment. Through these goals, the existing mass strategy from 1980s should be abandoned and hotel facilities meant to be redirected with specialization or focus strategy. What turned out to be wrong was to identify only the hotel and hospitality industry with the financial effects of tourism, they needed to be evaluated through agencies and other activities in which tourism is multiplicatively linked (retail, agriculture, transport and municipal services). It is emphasized preservation of the comparative advantages of the County's hospitality industry, dividing residential, mass tourism into selective types such as congress, health, picnic, rural and urban tourism and development of nautical tourism, which meant great services, free custom zones across the County, not necessarily in the towns, development of various economic activities indirectly related to tourism.

5.3. Tourism Development Strategy for the Dubrovnik-Neretva County 2012 – 2022

A bottom-up cluster analysis was conducted which included several analyzes related to tourism. Key issues were well identified, namely fragmented governance and stakeholder mismatch, especially between the private and public sectors, incompatibility of tourism and development models of different clusters, limited chain value (products and services) for off-peak commercialization, low return on investment in hotel industry, inactive properties in attractive locations and problems related to visitor management and high season in the city of Dubrovnik. To solve the problem, a model of the Azure coastwas proposed which should be followed through positioning the Dubrovnik-Neretva County as a luxury-resort, 8-month destination, summer vacation and second home destination.

As objectives, the following were listed (Dubrovnik-Neretva County Tourism Development Strategy 2012-2022, 2013) and a several questions appear:

- **increase in tourist volume from 60 to 70% -** since the strategy was developed in 2013, and the number of tourist arrivals and overnights in the County (2013) reached 1.241.254 arrivals and 5.618.286 overnights, it is questionable to increase the tourist volume from 60% to 70% because there are no accommodation capacities that would follow a linear increase, and thus at the start destroys the thesis intended to escape from mass tourism. According to the number of inhabitants in Dubrovnik-Neretva County from 2011 there was 122.568 persons (http://www.edubrovnik.org/en/demographic-data/accessed: September 27, 2019), and it is unsustainable to have in a small geographical area over one million tourists without destroying the space and resources. The claims that sustainable tourism should be developed are not realistic because these are contradictory situations.
- **Increase in occupancy by 50%** - it is not clear what accommodation facilities are meant - private, hotel, camping, nautical, etc. It is unknown in which time this goal should be reached, through the year or in particular season(s) and which segment of tourists would be targeted and how.
- **Additional capacity increase of about 10.000 beds** - it is unclear in what types and categories of accommodation facilities the mentioned capacities would increase and the spatial dispersion of these facilities. Has the current status and availability of bearing capacities been analyzed, where to decrease and increase and where is the geographical area of location? There is no statistically regulated data showing the actual number of accommodations in private rental properties, there are still too many facilities that manage (despite controls) to be in "grey" as a result of renting in the sharing economy through Airbnb and similar platforms.
- **Increase in guests' consumption by 50%, increase in business volume of MICE, Rural & gastro and Nautical products based on new investments** – in what way and

by which measures to increase the consumption of tourists and visitors, where to invest, how to insure the capital and who will be in charge of restrictions?

- **Growth of events, touring and short breaks with the professional support of destination management and marketing** - destination management in County doesn't exist, as well as complete analysis of events that should become a standard part of the tourist offer (except for the Dubrovnik Summer Games), and touring in recent years is trying to revive through the various EU projects, but the awareness of local governments and self-governments is still not mature enough to withdraw funding and ensure the development of adequate infrastructure in order to enable different tours. Although according the new Law on Tourist boards, they should take this initiative (NN 52/19). As an example, the cycle path through Dubrovnik Littoral was designed as a part of the tourist offer, however, there is only tourist signage and promotion was made through the tourist fairs, without the construction of a cycling trail or adequate infrastructure that would allow users safety and protection. Tourists take the risk driving across the Napoleon road and Adriatic Highway, where groups of cyclists, buses, trucks and passenger cars travel at the same time.

These strategic goals have left a number of unanswered questions, but when it comes to sub-objectives within the clusters, the situation is different. The strategy presents the Dubrovnik Riviera clusters and individual objectives within, as in the previously mentioned development document related to post-war economic recovery (Dubrovnik-Neretva County Tourism Development Strategy 2012-2022,):

- **Dubrovnik - *Le Chic*** – with the congress center, golf courses in Konavle, and Dubrovnik Littoral, new berths, gradual conversion of cruising products according the homeport model, increasing the prices in hotel accommodation by 50%, establishing an efficient system of strategic and operational tourism management. These objectives are feasible, realistic and measurable. For each of them the financial program, the time of realization and the entities responsible for that, the priority of performance and the proposal of management techniques were presented.

- **Peljesac - Wine Empire** - a gastro-oenological heaven dominated by the first protected wines in Croatia: Dingac and Postup, oysters, mussels and other shellfish, wine cellars and gastronomic offer in Ston. The intention was to build at least one rural hotel, a new green field resort and at least 100 new units in the facilities, introduction of Pelješac culinary brands, labels and quality control, establishment of a unique mechanism for tourism and agriculture management with priority tasks of quality control and labeling. As previously, the objectives were well-defined, however, there are no management mechanisms for implementation.

- **Neretva – The expansion of life** - a combination of Neretva, karst and the sea, which is the unique feature of the County. The goals set included the creation of conditions for raising the quality of coastal accommodation, new accommodation units, camps and marinas as priority projects, ecological conservation as a real attribute and strategic priority, the process of building and protecting the Neretva Tangerine brand, harmonization of development initiatives and spatial planning framework and consensus of interest groups and cluster administrative units on the priority of tourism development.

- **Korcula - Island for life** - tradition and life of the Island through magnificent natural and urban scenery. It was planned to build new hotels, new berths and new units in rural accommodation facilities, to implement key competitiveness programs such as themed beaches, the Wine Museum in Cara, the Marko Polo Project, the Vela Spilja Archaeological Park and the Korcula Islands Olive Oil Roads. Some of the objectives are achieved, but not within the planned deadlines and with EU funds.

- **Mljet - Island Park** - identified by the diversity of natural phenomena and mystical history. It aims at doubling hotel accommodation through a new 4* resort, building new berth marinas, a cluster tourism management system that integrates key interests and is integrated with the county's management system.
- **Lastovo - Hiding place** - the trademark of the intact nature and rich tradition. One of the goals was the construction of a stop-over marina of 150 berths within 5 years, a new hotel project of at least 200 accommodation units, implementation of the diffusion hotels, the stronger integration of island agriculture and rural tourism, the realization of the project of an island multifunctional center, the cycling trails, promenade and beach fitting, managing the development of competitiveness programs and investment projects.

What is missing in the Strategy is the direction in which the County should be profiled in an increasingly demanding and competitive tourism market and the answer how to be distinctive and recognizable. It is positive to be focused on clearly defined clusters, but the question remains how to promote the County as a whole? The direction of Dubrovnik-Neretva County tourism development is not clearly defined. It can be concluded that, in relation to some previous development documents, the Strategy is more structured, but it lacks a general view of the County.

6. Conclusion

This paper analyzes 5 planning documents of Dubrovnik-Neretva County related to tourism development from the 1960s to the 2022s. The documents were made in accordance with the times, regulations and trends. Through the analysis, it is noticeable that documents have never been a problem. It is unreasonable that in times of powerful competition, state and counties don't have a vision of tourism. Strategies at national, regional and local level are not adjusted. If the national strategy is not working and is not right, regional and local strategies cannot be expected to work either.

Considering Dubrovnik-Neretva County, there are several problems that have led to this situation. At first, there is no destination management linking different stakeholders in the County: stakeholders from the public, private sector and local population to work together in order to achieve return on investment, market growth, product quality, destination brand and benefits for all stakeholders. The current strategy didn't mention promotion and it is unclear how to promote the County. However, the solutions should be offered by tourist boards that are supposed to take the role of destination management, although it is not clear how that will be implemented, as a conceptually new Law on Tourist boards provides such a role. The next problem is related to the "usurpation" of tourism. When a government changes, new strategies are made immediately, that leads to a frequent change in vision, mission and goals. A state of confusion is reached, since the direction is interrupted and gets a new way, which results in a loss of time, resources and overall quality. In this way, tourism happens spontaneously, and the achieved results are short-term, unstable and endanger the natural resources. Therefore, it is not a problem in the planning, it exists, the problem is in the implementation and monitoring, although the quality of the existing plans of different sectors could be discussed. Sanctions that would impose a fine on the heads of strategy implementation departments, people in charge of monitoring and rewards for those who works hard and do their jobs properly, would change the attitude towards tourism. It is a national strategy that should be the basis for all other strategies that go down to the regional and local levels and adapt given resources.

According to the goals in the current Strategy, the whole County should be one big construction site that would bring its projects to an end this year and next.The complete vision would change, the nautical and transport infrastructure would be better quality, there would be one

unburdening that would result in the possibility of considering the development of sustainable tourism, and thus, unfortunately, only one big wish remains.

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FOREIGN DIRECT INVESTMENT INFLOWS AND ECONOMIC GROWTH IN CENTRAL AND EASTERN EUROPEAN COUNTRIES – HETERODOX APPROACH

ABSTRACT

The aim of this paper is to investigate the relationship between foreign direct investment (FDI) and economic growth. The available empirical research on the subject relationship does not provide a clear answer to the direction and intensity, as well as a sign of mutual influence. Unlike the generally assumed positive effects which FDI inflows have on economic growth, recent empirical studies found negative impact on growth or even not impact at all. On the other hand, FDI inflow benefits, inter alia, depend on the stage of development and the developmental model of the recipient country. By linking FDI inflows and the countries growth model, we obtained Central and Eastern European countries (CEE) as the predominantly demand-led growth model countries.
The study covers 15 CEE countries for the period 1995 - 2016. Initially, the Granger causality test determines the direction of influence of FDI inflows and GDP growth rate, showing that an increase in the GDP growth rate also leads to an increase in total FDI inflows, while the reverse does not hold. In the second step, the panel data analysis tests the impact of the economic growth on FDI inflows, taking selected institutional, monetary and fiscal variables as control variables. The empirical results are elaborated theoretically in the context of a heterodox post-Keynesian paradigm, which assumes that foreign capital in the case of middle-income countries leads to an increase in domestic consumption due to real exchange rate appreciation, an increase in the current account deficit, the creation of macroeconomic imbalances and "negative" reallocation of resources seeing in market seeking FDI strategy.

Key words: FDI inflow, CEE countries, heterodox economics, economic growth, post – Keynesian economic theory.

1. Introduction

The aim of the research is to test theoretically and empirically the interaction of foreign direct investment (FDI) inflows and economic growth in a sample of 15 Central and Eastern European

countries (CEE)[1]. Namely, the research done so far has not provided an unambiguous answer to the question of the direction and intensity of the interaction of FDI inflows and economic growth, which raises the question of an effective FDI attraction policy.

A critical review of the literature has identified various directions of the relationship between these variables and the different significance of the most commonly used control variables. It has been noted that, contrary to the generally accepted view, FDI can have a negative impact on growth or no impact at all.

Furthermore, the insight that the growth rate has a significant effect on inflows opens a discourse on the relationship between the growth model and the type of FDI inflows in these countries (demand-led growth model) and market- seeking FDI strategy. In regard of this, the choice of variables in the empirical model has been expanded. That is why this paper draws on a post-Keynesian theoretical framework, emphasizing the subject relationship as structural phenomenon.

The paper starts from the thesis that most CEE countries belong to countries of a demand-led growth model and which, although scarce with domestic capital, do not necessarily place foreign savings into production (productive) purposes or activities intended for export including FDI. They are usually used to finance domestic consumption, leading to appreciation of the domestic currency and distortions of current account balance with a potentially negative impact on GDP growth (Bresser - Pereira and Gala (2009)). If the recipient country is a middle- income country and there are no investment opportunities for foreign investors, then foreign capital will mainly focus on domestic consumption, i.e., the sector of non-tradable goods. Furthermore, such a sequence will also lead to the deterioration of the current account balance, that is, the creation of its deficit. Consequently, the recipient country thus becomes vulnerable to external shocks (e.g., financial crises) that can curb economic growth that was initially largely created through stimulating domestic consumption (Staehr, 2018).

Further, such a sequence according to the above authors can lead to appreciation pressures resulting in an artificial increase of real wages and further growth of personal consumption promoting market -seeking type of FDI. Therefore, the basic thesis of the paper is that the growth model determines the type of FDI coming to countries and its development potential.

Based on the post-Keynesian theoretical framework, an empirical model is developed in the third part of the paper. The usual control variables are complemented by the variables of the real exchange rate and the current account balance according to post-Keynesian theoretical framework.

The empirical research is organized in three steps. Prior to the panel data analysis, the Granger causality test was conducted, which, in line with the above, showed that FDI inflows do not affect economic growth rate (GDP growth), but GDP growth rate leads to a higher FDI inflows. Instead, it highlights the elaborated post-Keynesian theoretical framework for considering the interrelationship of the variables in question. The subject relationship is also seen in the scatter plot with the estimated regression line. The results of the four tested panel models showed, in line with the research, that the rate of GDP growth has a significant impact on overall FDI inflows in these countries, in the context of a developed institutional framework and a financial system. In addition, the panel data analysis found that there is significant impact of current account balance and real exchange rate on FDI inflows according to post-Keynesian theoretical insights.

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[1] Albania, Bosnia and Herzegovina, Bulgaria, Czech, Estonia, Croatia, Latvia, Lithuania, Hungary, Macedonia, Poland, Romania, Slovakia, Slovenia and Serbia

2. Literature review and theoretical framework

Due to its characteristics (long-term investment character and lower volatility relative to portfolio and other forms of investment, FDI was considered as the most appropriate form of international capital movement with assumed positive direct and indirect effect (spill over effect) on the economy of the recipient country. In regard of this, most of the research on the relationship between FDI and economic growth has assumed a positive impact of foreign savings on economic growth while the process of European integration has particularly intensified FDI inflows in these countries.

The mainstream approaches on determinants of FDI inflows, in accordance with the neoclassical growth models, have stressed out the variables whose absence could compromise the inflow of FDI as well as its positive effect on growth. In the spirit of neoclassical growth theories, especially Lucas paradox, factors that negatively affect or limit the inflow of FDI have been explored, as is the case with the underdeveloped institutional framework in developing countries that lead to investor´s home bias. These insights explained the limitations of a more significant FDI inflows in these countries than the possible negative impact of FDI on the economic growth in recipient countries. Exactly a number of empirical studies have indicated the negative impact of FDI on growth.

Namely, one of the first papers to question this relationship was Mencinger (2003, 2008), who determines the negative impact of FDI on growth for CEE countries, explaining the FDI inflows mainly in the service sector, i.e. the lack of investment in export-oriented economic sectors. The concentration of investment in only a few service sectors (e.g. financial services, real estate and retail) can lead to a deterioration of the current account balance, i.e., an increase in consumption and imports (and thus an increase in foreign debt) at the expense of the export competitiveness of the recipient economy. The increase in the deficit is especially evident in the sub-account of income, which is generated mainly through the outflow of realized added value, i.e. profit.

Bogdan (2009), on a sample of CEE countries for the period 1990-2005, tests the hypothesis that FDI inflows have a positive effect on the economic growth of the recipient country. The impact of FDI on growth has proven to be negative (implying that foreign capital, which plays a role as a substitute for domestic savings, cannot contribute significantly to economic growth), although not statistically significant.

Pilipović, et.al. (2015) also analyse the relationship between FDI inflows and the impact of macroeconomic stability (primarily through low inflation) and openness on the example of PIGS countries, Baltic and Central and Eastern European countries for the period 1995-2012. Using fixed-effect panel models, the authors find statistically significant and theoretically based econometric analysis results; trade openness, GDP growth and membership in regional integration have a positive effect on FDI inflows.

Alfaro, Chanda, Kalemli-Özcan, and Sayek (2004), on the example of developed and developing countries, have found that FDI does not have a direct impact on economic growth, but this impact is more significant when considering financial development variables. The paper has shown that, although countries can significantly attract FDI through their measures, the weaker development of local financial markets may limit countries' ability to benefit from FDI. The functioning of financial markets is a prerequisite for FDI to drive growth in such an economy. Tang (2017) analyses the impact of the development of the financial system (market)

on FDI inflows in the period 1994-2012 in the sample of CEE countries. The author concludes that in the period 2005-2012 and in the period 1997-2004 both bank lending and the development of the capital market, measured by the size of market capitalization, had a positive effect on foreign investment.

Simionescu (2016), on a sample of 28 EU member states and for the period 2008-2014, analyses the impact of the financial crisis in the EU on the relationship between FDI inflows and economic growth. The author found a reciprocal (reciprocal/bilateral) and positive relationship between FDI inflows and economic growth, although research shows that in some countries, higher FDI inflows do not lead to higher economic growth, and that higher economic growth does not necessarily lead to increased FDI. The econometric analysis found that out of 28 EU member states, 19 had a reciprocal relationship between investment inflows and GDP growth, 7 had a non-negative reciprocal relationship, while two countries showed a specific relationship of variables whereby FDI had a negative effect on GDP growth, while GDP growth had a positive effect on the FDI inflows.

Kornecki and Raghavan (2010) also analyze the impact of FDI inflow (per stock approach) on economic growth. In the case of Poland, Slovakia, Slovenia and the Czech for the period 1990-2006, using the Granger causality test, the authors confirm the existence of impact of FDI inflows to economic growth.

Dornean and Oanea (2013) analyze the impact of the 2008 financial crisis on the relationship between the FDI level (as a percentage of GDP) and GDP growth rate, using the least square method based on an unbalanced panel model. They conclude that there is a statistically significant and positive impact on FDI, while the reverse is not true (interestingly, the level of GDP from the previous year had a positive effect on the FDI level of the current year). In addition, the dummy variable of the financial crisis turned out to be statistically significant, with a negative sign. Nevertheless, the authors cite a relatively small number of annual observations (only 22 observations) as a possible limitation of the research.

Upon completion of the literature review, it is visible
- that there is no clearly defined direction of the impact of FDI inflows on economic growth, with some of the above studies proving the negative impact of FDI inflows, that is, not establishing the significance of the relationship, nor is there any ambiguity in the interpretation of the relationship.
- that the current research on the subject relationship uses trade openness, GDP growth rates, inflation rate, the level of development of the financial system, and the development of the institutional framework used as control variables in our model for the sake of consistency of results. Namely, as the previous research shows, FDI mainly goes to those countries that have a developed financial system, a positive GDP growth rate, a favourable institutional framework and adequate monetary policy management.
- That the impact of the recent crisis in the EU had an influence on the magnitude of the inflow so the crisis variable will be also included in our model
- that most of the conducted research is using panel data models
-to put our research at the forefront of the post-Keynesian theoretical framework and accordingly the choice of variables has been extended to the real effective exchange rate (REER) variable, which greatly increases the explanatory potential of interpreting the relationships between them. It is important to note that only a few papers look at the impact of exchange rate policy elements on FDI inflows (Makhavikova (2015) and Polat (2015)). In

addition, the current account balance is included in the analysis in view of the idea based in the post- Keynesian framework that the growth model influences the developmental effects of FDI.

3. Empirical model

Considering the relationship between the GDP growth rate and FDI inflows, as an introduction to panel analysis and, in line with existing research (e.g. Mencinger, 2003), we will conduct the Granger causality test of FDI inflows and GDP growth rate. For the Granger causality test, it is important to note the following: first, the test does not detect the sign or strength of the relationship of the two variables; and second, if causality tests are performed on panel data then the pooling of data assumes that the causation direction is the same for each variable of each sample state, otherwise the estimates will be inconsistent (Mencinger, 2003). The first causality test shows that with a lag of 1 and 2 periods, GDP growth rates have a statistically significant effect on FDI inflows, at a significance level of 5% and 10%, respectively.

Table 1: Granger causality test

Pairwise Granger Causality Tests
Sample: 1995 2016
Lags: 1

Null Hypothesis:	Obs	F-Statistic	Prob.
FDI_INFLOWGDP does not Granger Cause GDP_GROWTH__ANNUAL_____N	302	1.15639	0.2831
GDP_GROWTH__ANNUAL_____N does not Granger Cause FDI_INFLOWGDP		**4.04207**	**0.0453**

Pairwise Granger Causality Tests
Sample: 1995 2016
Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
FDI_INFLOWGDP does not Granger Cause GDP_GROWTH__ANNUAL_____N	287	1.20076	0.3025
GDP_GROWTH__ANNUAL_____N does not Granger Cause FDI_INFLOWGDP		**2.91126**	**0.0560**

Source: E-views 7

Based on the results of the Granger causality test, in continuation we will analyse the impact of GDP growth rate and selected control variables on the total FDI inflows. The theoretical framework used in this paper for the analysis of assumed relationships is based on the principles of post-Keynesian economic theory. Namely, according to neoclassical economic theory, FDI inflows should lead to an increase in GDP growth, assuming that if foreign capital enters the export-oriented sectors, it would lead to higher export and an improvement in the current account balance. Otherwise, as the results of the Granger causality test show, if the causality of the variables does not go from FDI inflows to GDP growth rate, then important preconditions to attract FDI are imposed by macroeconomic conditions in the recipient country (such as the level of development of the recipient as well as the growth model according to the post-Keynesian theoretical framework).

Testing the hypothesis of the relationship between GDP growth rate and FDI inflows, will be carried out, as previously stated, using the panel data models.
Before tabulating the results of the econometric analysis, a scatterplot will be presented below with an estimated regression line between GDP growth rate and FDI inflows (in euros). The figure below shows the almost insignificant (slight positive) impact of FDI inflows on GDP

growth rate. The reason for this can be find in the sectoral structure of foreign direct investment, where most FDI inflows do not go to the manufacturing sector but to the service sector.

Graph 1: Scatterplot with estimated regression line between GDP growth rate and FDI inflows
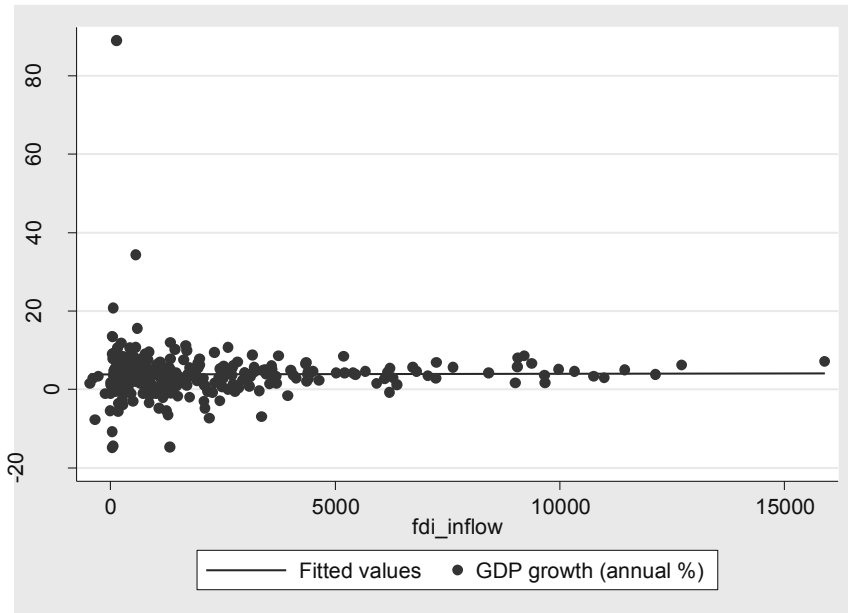
Source: Stata 11

Further, an econometric panel analysis of the reverse impact - the impact of GDP growth and other control variables on the total FDI inflows will be conducted. Thus, this section of the paper will determine the impact of the macroeconomic environment on the size of total FDI inflows. The estimated model can be represented with the following equation:

$$FDI\_INFLOW_{it} = \alpha_i + \beta_1 GDP\_GROWTH_{it} + \beta_n X_{it} + \varepsilon_{it}$$

where *GDP_GROWTH* is the real GDP growth rate while *FDI_INFLOW* is the total FDI inflows of i unit of observation for the time period t. X_{it} represents the vector of other independent variables of dimensions 1*k in the country and for time period t. The parameter α_i is a constant term different for each unit of observation, $\beta_1,...,\beta_K$ are the parameters to be estimated, while ε_{it} is the estimation error of i unit of observation for time period t and are assumed to be independently and identically distributed random variables across observation units and time, with mean 0 and a variance σ^2.

Three models were tested in total, using trade openness, inflation rate, domestic loans to the private sector, GDP growth rate, and the current account balance (in % of GDP) as control variables. In order to catch the effect of the recent crisis on total FDI inflows we will also include in the model a dummy variable where for the crisis years the variable has a value of 1 (2009-2013), while for the other years the variable has a value of 0. The model also considers the impact of the institutional framework on the total FDI inflows. Using factor analysis (according to Globerman and Shapiro, 2002), the first principal component of the six World Governance Index indicators will be extracted, which then will be used as a proxy variable of the institutional setting in econometric analysis.

Among the control variables the FDI inflows variable (stock approach) will be included in the model as an indicator of agglomeration effect (according to Walsh and Yu, 2010). The variable of total FDI inflows will be used as the dependent variable. For the purposes of panel data analysis, the logarithmic values of the dependent variables will be used. A fixed-effect AR (1) estimator based on Bogdan (2009) was selected to evaluate the parameters based on the Hausman specification test. In the Appendix we also present panel data analysis using PCSE estimator

Table 2: Results of the econometric panel data analysis (impact of GDP growth rate on total FDI inflows)

Dependent variable→	logFdi_inflow	logFdi_inflow	logFdi_inflow
Constant	6.413759 (0.3079642)***	5.392112 (.1918047)***	3.527132 (0.5577934)***
Gdp_growth	0.0474261 (0.0174993)***	.0216842 (.0132598)*	.0319585 (0.0171497)**
Trade_index	.0031676 (.0047485)	.0114488 (.0030387)***	-.0013896 (0.0047876)
Cab_gdp	-.0641773 (.0158661)***	-.0588162 (.0126726)***	/
Inflation	.0306064 (.0122176)**	-.00059 (.0048275)	/
Institutions	.1732883 (.1629014)	/	/
Dummy_crisis	/	-.0353568 (.144138)	/
Domestic_credit	/	/	-.0160324 (0.0066971)*
logFdi_inward	/	/	.4771981 (0.1212271)***
Number of observations	223	267	228
Number of countries	14	14	15

*, **, *** statistical significance at 10%, 5% and 1%. The standard errors of estimation are in parentheses

As noted above, three models were tested. In all tested models, the variable of GDP growth rate, as expected, showed a statistically significant and positive influence on the dependent variable. Furthermore, the trade openness variable in the tested models also showed a positive influence on the total FDI inflows. The variable of the current account balance (percentage of GDP) in the tested models showed a negative impact on the total FDI inflows, with this effect being statistically significant in two models. According to Staehr (2018), who analyses the relationship between real GDP growth rate and the current account balance on the example of 11 CEE countries for the period 1997–2015, the relationship between the two variables mentioned is inverse; an improvement in GDP, that is, an increase in its growth rate leads to a worsening of the current account balance meaning an increase in its deficit. In the opposite case, as a result of the GDP decline (falling growth rate) there is an improvement in the current account balance - deficit reduction/surplus increase. Considering that the FDI inflows is partly used to finance current account deficit, then their negative relationship suggested by the panel analysis has a logical and economically based explanation; an improvement in the current account balance leads to a reduced need for inflows of various forms of capital (including FDI), while the existence of a negative balance leads to an increase in capital inflows to cover the current account deficit. This may be due to the export orientation of such an investments (and thus to the improvement of foreign trade balance), as opposed to investment in the service sector, which does not necessarily contribute to export growth but to market expansion, i.e., to a greater market share of foreign investor.

The quality of the institutional environment did not prove to be statistically significant, although the improvement of the institutional environment has a positive impact on the total FDI inflows. Also, the financial system development variable, viewed through the indicator of domestic loans to the private sector, showed a slight negative (neutral) impact, which supports the thesis that FDI inflows into the service sector for the purpose of expanding the market and harnessing

the purchasing power of domestic consumers correlate positively with the developed financial market in the recipient country.

In conclusion, from all three models tested, it is possible to confirm the thesis about the existence of basic preconditions (thresholds) that affect the total FDI inflows and which are in accordance with the well-stated post-Keynesian theoretical framework. Namely, a joint analysis of all three tested models can lead to a common conclusion about economic growth as a pull factor.

Further, the impact of the index of real effective exchange rate on the FDI inflows will be also econometrically tested[2]. As the literature review shows, the one of the key exchange variables is the index of the real effective exchange rate (and not the nominal effective exchange rate), so the analysis will be based only on that relationship. Inflation rate, real GDP growth rate and current account balance (in percentage of GDP) were used as control variables in the model. The tested model can be represented by the following equation (Walsh and Yu (2010) and Kinoshita (2011), also analysed the relationship between the real exchange rate index and total FDI inflows):

$$FDI\_INFLOW_{it} = \alpha_i + \beta_1 REER_{it} + \beta_n X_{it} + \varepsilon_{it}$$

where *REER* is the real effective exchange rate while *FDI_INFLOW* is the total FDI inflows of i unit of observation for the time period t. X_{it} represents the vector of other independent variables of dimensions 1*k in the country and for time period t. The parameter α_i is a constant term different for each unit of observation, $\beta_1, ..., \beta_K$ are the parameters to be estimated, while ε_{it} is the estimation error of i unit of observation for time period t and are assumed to be independently and identically distributed random variables across observation units and time, with mean 0 and a variance σ^2.

The econometric analysis will use the Wooldridge test for autocorrelation in panel data. In addition, to avoid heteroscedasticity of residuals, a robust standard estimation error will be used in the model. In the Appendix, we also present panel data analysis using PCSE estimator.

Table 3: Results of econometric panel data analysis (impact of real effective exchange rate on total FDI inflows)

Dependent variable→	logFdi_inflow
Constant	4.494266 (.5930854)***
REER_2010_100	.0248738 (.006268)***
Inflation	-.0043337 (.002933)
Gdp_growth	.0311443 (.0174183)*
Cab_gdp	-.0582139 (.0103844)***
Wooldridge test (p-value)	0.8211
Number of observations	228
Number of countries	11

*, **, *** statistical significance at 10%, 5% and 1%. The standard errors of estimation are in parentheses

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[2] Due to lack of real exchange rate observations for four countries this model will be tested on 11 CEE countries. The indices of nominal and real effective exchange rate are calculated on an annual basis as the arithmetic mean of monthly index values, according to the available exchange rate database of the Bank for International Settlements (BIS). The real exchange rate is calculated as the nominal effective exchange rate corrected for relative consumer prices. Increasing the index means appreciation, and its decreasing means depreciation of the real exchange rate.

As it can be seen from the table above, the index of real effective exchange rate (REER) showed a theoretically grounded (in line with the above mentioned studies) and statistically significant influence on the dependent variable. In the first estimated model, where the variable of total FDI inflows was used as a dependent variable, the variable of the real effective exchange rate turned out to be statistically significant at the level of 1% with a positive and relatively strong economic effect. In the first model, the inflation variable, the GDP growth rate variable and current account balance variable were also used as control variables. The inflation variable did not prove to be statistically significant, while the other two control variables showed a positive or negative economic impact, at 10% and 1% significance levels, respectively. The effect of the variable of the real effective exchange rate index on the dependent variable can be interpreted in the way that appreciation of the real exchange rate leads to an increased total FDI inflows, bearing in mind that investment in the service sector prevails in the case of individual sample countries. Furthermore, the GDP growth rate variable expectedly showed a positive impact on total FDI inflows, while the current account balance variable, incidentally as in the previous panel model, showed a negative impact on FDI inflows, showing also in this model that, looking at the sample level, FDI mainly worsens the current account balance, that is, leads to an increase in its deficit.

By linking the above results of econometric analysis with the context of the post-Keynesian theoretical framework, it can be concluded that, given the adopted growth models, GDP growth rates lead to an increase in foreign direct investment inflows (whereby the reverse is not true in the sample of countries from the survey). The analysis can implicitly conclude that the majority of FDI inflows goes to the non-tradable goods sector, which generally does not lead to an increase in the physical capital accumulation in the recipient country and its export orientation, but leads to an increase in domestic consumption by a market-seeking motive of foreign investor. As a result, there is an increase in the current account deficits and appreciation pressures on the real exchange rate (Bresser-Pereira, 2009). The onset of the crisis (a dummy variable in the model) led to a decrease in total FDI inflows and an improvement in the current account balance but also a slowdown in economic growth (Staehr, 2018).

4. Concluding remarks

Survey results from a sample of 15 Central and Eastern European countries confirmed the basic thesis that GDP growth is a factor that influences FDI inflows, while in the context of demand-led growth model, the same effect does not apply *vice versa*. In addition, the panel analysis confirmed the role of the institutional infrastructure and the development of the recipient country's financial system as a pull factor. Using the variable of the real effective exchange rate, which has a positive impact on the total FDI inflows, we expanded the theoretical scope of analyses. Namely, capital inflow leads to real exchange rate appreciation causing current account deficit. The import expanded economy (demand led growth model) influences then the sectoral structure of FDI. The research findings were then explained in the context of heterodox economic theory, highlighting, for this sample of countries, the overwhelming role of FDI in stimulating domestic consumption at the expense of export orientation and the consequent deepening of the country's current account deficit.

Using a post-Keynesian methodology, the transmission from capital inflows and exchange rate appreciation to increased consumption and FDI inflows into non-export sectors are making country vulnerable to shocks and unsustainable economic growth based on increasing indebtedness. In doing so, we have shown that the interaction between economic growth and FDI is primarily a structural phenomenon. The change in this structural relationship must be based on a change in countries investment policy (public as well as private), an increase in GDP based on export, thus in attracting FDI to export branches (changing the sectoral structure of

FDI). FDI is an endogenous variable which inflows structure depends on the country's long-term economic model. The growth model based on domestic savings will attract export oriented FDI inflows. The analysis of sectoral structure of FDI inflows is of the most importance to understand this relationship, but it is beyond the scope of our paper at the moment.

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Appendix

Table 4: Results of the econometric panel data analysis (impact of GDP growth rate on total FDI inflows) using PCSE estimator

Dependent variable→	logFdi_inflow	logFdi_inflow	logFdi_inflow
Constant	7.231604 (0.3240856)***	.65665 (0.5373445)	7028482 (0.4805915)
Gdp_growth	-.0103779 (0.022149)	.0647855 (0.0200523)***	.0500563 (0.0300074)*
Trade_index	-.0053355 (0.0025992)**	-.0103826 (0.0020587)***	-.0092753 (0.0021981)***
Cab_gdp	-.0544043 (0.0148308)***	-.051183 (0.0104603)***	-.0490035 (0.0133697)***
Inflation	-.013537 (0.0138199)	/	/
Institutions	.7437277 (0.0621093)***	.1534224 (0.070683)**	/
Domestic_credit	/	/	-.005866 (0.0032441)*
logFdi_inward	/	.7430488 (0.0448551)***	.7756774 (0.0323912)***
Number of observations	237	249	243
Number of countries	14	15	15

*, **, *** statistical significance at 10%, 5% and 1%. The standard errors of estimation are in parentheses

Table 5: Results of econometric panel data analysis (impact of real effective exchange rate on total FDI inflows) using PCSE estimator

Dependent variable→	logFdi_inflow
Constant	5.53122 (0.8959862)***
REER_2010_100	.0245446 (0.0089433)***
Gdp_growth	.0359978 (0.0289862)
Cab_gdp	-.0329724 (0.0197901)*
Institutions	.5956429 (0.0890104)***
Number of observations	191
Number of countries	11

*, **, *** statistical significance at 10%, 5% and 1%. The standard errors of estimation are in parentheses

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THE LEGAL EFFECTS OF THE *Lex Agrokor* ACT AND ITS SIGNIFICANCE IN REGIONAL AND SECURITY CONTEXT

ABSTRACT

The paper examines the meaning, content and legal effect of the decision of the Constitutional Court of the Republic of Croatia on the conformity of the Act on Extraordinary Administration Procedure in Companies of Systemic Importance for the Republic of Croatia – Lex Agrokor ("Official Gazette" No. 32/17.; hereinafter: the Act) with the Constitution, and its significance in regional and (national) security context. The Act has significantly changed the legal system of the Republic of Croatia, which has hitherto regulated insolvency law, company law and contractual relations, which have been applied in Croatian legal tradition for years, and introduced new standards governing specific situations of corporate insolvency of systemic importance for the Republic of Croatia. Since 2 May 2018, by decision No. U-I-1694/2017 et al., the Constitutional Court established the constitutionality and conformity of the disputed Act with the Constitution by not accepting the proposals of the twelve petitioners for review of its constitutionality. The procedures before the the Constitutional Court were unique in the existing Constitutional Court practice, and the legislative and executive authorities passed the test of justification for the adoption of this Act, therefore undoubtedly contributing to the economic stability of the Act, and consequently (in)directly affecting the regional-demographic phenomenon, and ultimately the protection of national interests and security. Therefore, the authors in this paper (by case study method, normative analyses,) give an overview of the course and characteristics of the Constitutional court procedures, determine under which basic constitutional values and principles (such as: welfare state, social justice, security, the requirement of proportionality, legitimate aim, the rule of law and equality, and due process) the Constitutional Court has classified the petitioners' stated objections, and provide an overview - the connection between the legal effect of the challenged Act for the legislator and its effect in the regional and security context.

Key words*: extraordinary administration, Constitutional Court of the Republic of Croatia, economic system, demographic impact, security aspect.*

1. Introduction

Constitutional Court of the Republic of Croatia (hereinafter: the Constitutional Court) by Decision No. U-I-1694/2017. et al., dated 2 May 2018 (hereinafter: the Decision), did not accept the proposals to initiate the procedure for reviewing the conformity with the Constitution of certain articles of the Act on Extraordinary Administration Procedure in Companies of Systemic Importance for the Republic of Croatia - *Lex Agrokor* ("Official Gazette" No. 32/17, hereinafter: the Act) nor the Act as a whole. The decision was adopted by a majority vote, with separate opinions of three judges forming an integral part of the Decision. This is one of the most significant decisions of the Constitutional Court, since the Act introduced new norms regulating specific situations of insolvency of companies of systemic importance for the Republic of Croatia.

The process for reviewing constitutionality of the Act was initiated by twelve petitioners, and the proposals were gradually submitted in the period from 2017 to 2018. All twelve proposals were consolidated into one constitutional court procedure, which enabled a thorough examination of the Act. Although allowed by the Constitutional Act on the Constitutional Court[1] (Article 38, paragraph 2), the Constitutional Court did not decide on its own initiative on the constitutionality of the provisions of the Act. The ensuing procedure was unique in the constitutional court practice so far. Therefore, the authors of this paper, by analyzing the constitutional court procedure, will try to emphasize the connectivity of the welfare state elements/principles, respect for social justice, security, the requirement of proportionality, the achievement of a legitimate aim, the principle of the rule of law with the very reason for enacting the act in question and empowering it by the Constitutional Court Decision, all with the possible protection of national security elements. This is an extremely important and interesting topic that has not been sufficiently explored in the Croatian or foreign literature. The paper is structured into four chapters using normative analysis and case study methods. After the first, introductory chapter, in the second part of the paper the authors describe the procedure for evaluating the conformity of the Act with the Constitution of the Republic of Croatia, first describing the features of the impugned Act, and then analysing the petitioner's complaints and the evaluation of the Constitutional Court. The third part of the paper analyses the effects of the decision of the Constitutional Court in the service of protection of social, demographic and national security interests of the Republic of Croatia. Finally, in the fourth chapter we bring a conclusion.

2. Procedure for Reviewing the Conformity with the Constitution

A feature of this Act, apart from its significance in the legal order, is the sensitivity of the matter and the nature it regulates. Namely, the Act follows a significantly different approach to dealing with the illiquidity of the company than the approach on which the insolvency legislative framework[2] was built. The situation is particularly complex because the matter it processes is characterized by the protection of the viability of a company, which, together with its subsidiaries and affiliates, affects the overall economic and financial stability in the Republic of Croatia.

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[1] Constitutional Act on the Constitutional Court of the Republic of Croatia ("Official Gazette" No. 99/99, 29/02 and 49/02 - consolidated text; hereinafter: the Constitutional Act).

[2] Insolvency legislative framework enables agreement on the continuation of the business of an illiquid company, but

its primary purpose is to ensure a fair distribution of the debtor's assets, namely to ensure the highest degree of debt repayment to the creditors in case of liquidation (Dissenting opinion, 2018, 3).

In order to make the best possible decision, the Constitutional Court requested and received extensive documentation from the competent ministries (the Ministry of Finance and the Ministry of Justice), the statements of the Government (5 of them), expert opinion on the submitted proposals by full professor Biljana Kostadinov from the Department of Constitutional Law at the Faculty of Law, University of Zagreb (hereinafter: expert opinion), and also considered the European Commission Recommendation on a new approach to insolvency and insolvency of companies.[3]

In the present case, the Constitutional Court was faced with a great challenge, and in deciding on the constitutionality of the impugned Act, it struggled with extensive and sensitive matter and sought to make the best possible decision. In spite of major problems and public pressure, the Constitutional Court (based on the Article 29 paragraph 1 and Article 43 paragraph 1 and 2, Constitutional Act) issued, in our opinion, a very thorough and quality solution on 2 May 2018.

2.1. Features of the Impugned Act

In its assessment, the Constitutional Court proceeded from the essential features of the impugned Act, which it later examined primarily through the concept of the welfare state and social justice. The first feature of the impugned Act is its aim, which is to protect the sustainability of business activities of companies of systemic importance for the Republic of Croatia, which by their business independently or together with their subsidiaries or affiliates affect the overall economic, social and financial stability in the Republic of Croatia. In order to achieve this aim, the Act establishes a mechanism for restructuring the financing and/or business activities of a company which is, due to its illiquidity, threatened by the collapse of business and possible liquidation in the course of insolvency procedures, which, given its business networking and economic impact, would have extremely grave consequences for the whole economy, which would disrupt market operations, the financial system and the social security system. Another important feature of the Act is the measure (mechanism) of extraordinary administration[4] for companies of systemic importance for the Republic of

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[3] European Commission adopted the Recommendation on 12 March 2014, based on the Article 292 of the Treaty on the Functioning of the European Union, (hereinafter: TFEU), in order to promote greater consistency between national insolvency frameworks, reduce ineffectiveness and deviations that hinder early restructuring of viable companies in financial difficulties, and provide a second chance to honest entrepreneurs. See: Commission Recommendation 2014/135/EU of 12 March 2014 on a new approach to handling business failure and insolvency, OJ L 74, 14.3.2014, pp. 65–70.

[4] Extraordinary Administration Procedure shall be initiated on the proposal of the debtor who fulfils the conditions of
Article 4 of the Act or the debtor's creditor and/or the debtor's affiliates or subsidiaries, with the consent of the debtor. The proposal is submitted to the Zagreb Commercial Court as the only competent court, which is obliged to inform the Government and the Ministry of Economy, Entrepreneurship and Crafts on the same day. The initiated procedure is urgent and is subject to the rules from a separate Act governing insolvency procedure. During the Extraordinary Administration Procedure, the initiation of procedure for the liquidation of the debtor, pre-insolvency and insolvency procedures is not allowed. No civil, enforcement, or assurance procedures, as well as out-of-court collection enforcement against the debtor and its subsidiaries and affiliates (except those related to labour disputes) are not allowed from the date of the opening of the Extraordinary Administration Procedure, whilst the previous pending procedures are terminated. The governing bodies of the Extraordinary Administration Procedure are the Court, the Extraordinary Commissioner, the Advisory Body and the Creditors' Council. The Court may at any time (during the course of Extraordinary Administration Procedure) at the request of the Extraordinary Commissioner, with prior consent of the Creditors' Council, decide to terminate the Extraordinary Administration Procedure and to open insolvency procedures if it determines that there is no possibility for further establishment of economic balance and the continuation of the debtor's business on a permanent basis. Extraordinary Administration Procedure ends with the validity of the decision on suspension of the Extraordinary Administration Procedure, the execution of the settlement within 15 months from the day of opening the

Croatia, which is carried out in a special procedure regulated by the Act, which specifically elaborates the prerequisites for opening an extraordinary administration procedure, the legal consequences of opening and implementing this procedure. Through the mechanism of extraordinary administration, the legislator tried to provide the conditions for restructuring of a failed company by changing the existing financing conditions of the company or reorganizing its institutional corporate structure and business practices in order to prevent its liquidation and enable the continuation of business. (Solution, 2018, 6-9).

The impetus for the above mentioned to the legislator was also the fact that the mechanism of extraordinary administration which tries to provide a "second chance" to illiquid companies by business restructuring in order to avoid liquidation is also known in market economy companies and their legal systems. Moreover, this is further reinforced by the adoption of Directive (EU) 2019/1023 on preventive restructuring frameworks, discharge of debt and disqualifications, and measures to increase the efficiency of procedures considering restructuring, insolvency and discharge of debt, and amending Directive (EU) 2017/1132 (Directive on Restructuring and Insolvency).[5]

What is important is that such a legislative solution should ultimately lead to the prevention of the economic and social crisis that could have arisen by the overflow of the effects of illiquidity, as well as the consequences of business failure on the creditors of the failed company, its employees and related financial institutions.

3. The Petitioners' Objections and the Constitutional Court's Assessment

The Constitutional Court reduced the petitioners' complaints to two basic objections, namely the complaints aimed at the formal (in)compliance of the Act with the Constitution, and then the complaints aimed at the material incompliance of the Act with the Constitution, namely some of its articles. In relation to complaints of a formal nature, the legislator is allowed to pass an emergency procedure in exceptional situations, when there are justified reasons for this, which must be specifically explained. In this case, the Government justified the adoption of the Act in a valid and sufficient manner based on the extraordinary circumstances of a major and uncontrolled disturbance of the economic system, as well as the insufficient and ineffective legal framework of the pre-insolvency and insolvency procedures, which are considered to be valid reasons. Thus, in this particular case, there was an urgent need to protect an important social interest. In relation to *vacatio legis* (decision on when an Act is going to enter into force), it is pointed out that the Constitution knows and allows an exception in determining a different (shorter) *vacatio legis,* which is read from the second sentence of Article 90 (3) of the Constitution[6], which permits a shorter period for the act may enter into force and is thus allowed to be on the first day after its publication in the Official Gazette. The fact is that the Act was voted by a majority vote of (all) MPs, so it is an organic law, which undeniably speaks of its importance and the constitutional rank it has been given.

In assessing the material compliance of the Act as a whole or of some of its articles with the Constitution, the Constitutional Court started from the concept of welfare state and social

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Extraordinary Administration Procedure, if no settlement has been concluded within that period. (Article 4, 6, 7, 9, 24, 45 and 45 of the Act).

[5] Directive (EU) 2019/1023 of the European Parliament and Council of 20 June 2019, OJ L 172, 26.6.2019, pp. 18–

55.

[6] Article 90(3) of the Constitution of the Republic of Croatia ("Official Gazette" No. 56/90, 135/97, 113/00, 28/01, 76/10 and 5/14; hereinafter: Constitution) prescribes that the act enters into force no earlier that the eighth day after

its promulgation, unless otherwise defined by the act for justified reasons.

justice and the accepted doctrine of economic neutrality of the Constitution.[7] This is especially so because it has been objected that there is no reason to introduce the law, that it does not have a legitimate aim and that it has encouraged the nationalization of the Agrokor Group.

Article 1 of the Constitution defines the Republic of Croatia as a welfare state, which implies its obligation to promote economic progress and social wellbeing and economic development of all its regions (Article 49), as well as ensuring social justice (Article 3) as the highest values of the constitutional order. From this constitutional framework emerges the leading role and obligation of the state in securing state welfare both in protecting fundamental human rights and freedoms and in undertaking economic and social measures.

The concept of the welfare state has three functions, namely those which enable different forms of positive measures of state and public authorities in the economic field, such as state interventionism and "top-down governance", which obliges the state and public authorities to influence or to interfere with the market function (to ensure the realization of fundamental social rights, to achieve social security and to equalize or reduce extreme social disparities) and those forbidding the dissolution of the basic structures of the welfare state or the radical restriction of recognized social rights (Decision, 2018, 39). All these tasks must be carried out by the state government, respecting the principle of the rule of law, as one of the fundamental values guaranteed by Article 3 of the Constitution. The fundamental component of the welfare state is social justice as one of the highest values of the constitutional order of the Republic of Croatia, whose function (apart from being the basis for interpreting the Constitution) is reflected in the obligation of the state to engage in the legislative plan in establishing and maintaining the social order. Constitutional review of legislative activity within the framework of the principles of the welfare state and social justice is of particular importance in assessing whether the legislator has found the optimal compromise (balance) between the two opposing constitutional values, as in the present case. This refers to the constitutionally guaranteed entrepreneurial and market freedoms on the one hand and the realization of the concept of a welfare state in the framework of which there is no foreign intervention of the state into the private legal field, on the other. The aforementioned intervention is allowed in situations of drastic economic imbalance and economic and social crisis, as in this particular case.[8]

Furthermore, within the concept of the welfare state on the basis of which the state has an obligation to care for a just social order, the Constitutional Court also questioned the freedom of the legislator in economic policy making, or whether it exceeded (violated) it in this particular case. In assessing the above, he emphasizes the importance of the doctrine of economic neutrality of the Constitution (and of constitutional judges) according to economic

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[7] In the Decision No.: U-IP-3820/2009 et al. of 17 November 2009 ("Official Gazette" No. 143/09) the Constitutional

Court stated its views on the welfare state standards and the social justice principles. Constitutional Court reiterated

them in its later practice (Decision No. U-I-3685/2015 et al. of 4 April 2017).

[8] "*At the time the Report was written, Agrokor had more than 56,000 employees in Croatia and abroad, representing*

4.78% of the total number of persons in paid employment in legal entities in the Republic of Croatia. The size, territorial distribution and the interweaving of the Agrokor Group's business activities with the activities of a large number of entities in the rest of the Croatian economy indicated the danger of overflowing difficulties from the systematically important companies to the rest of the economy. For example, Konzum alone, as one of the constituents of the Agrokor Group, had more than 2,500 suppliers with approximately 150,000 employees (accounting for 12% of employees in legal entities, or 10.9% of the total employees in the Republic of Croatia), and the discontinuity of that constituent alone had the potential to threaten job security in the rest of the economy - which could affect as much as 10.9% of the total employees and their family members throughout the territory of the Republic of Croatia. In addition, the Agrokor Group maintained business relationships with twenty-one (21) credit institutions in the Republic of Croatia, and the exposure of certain credit institutions to Agrokor was at the maximum legal level (approximately 25% of their guarantee fund)." (Decision, 2018, 35).

policies and the freedom to choose a legislator. [9] The aforementioned freedom to choose the economic policy of the legislator (the Croatian Parliament) stems from Article 2, paragraph 4, indent 1 of the Constitution. By applying the aforementioned to the specific case and considering the welfare state principle, the Constitutional Court emphasizes that the state (legislator), in a situation of unfavourable economic and monetary trends (which could have a negative effect on the economy of the Republic of Croatia due to the sudden and uncontrolled breakdown of companies of systemic importance[10]), with an inadequate and ineffective existing legal model to prevent it, had an obligation to take the necessary economic policy measures to eliminate this danger and preserve social rights and social security. The impugned Act therefore satisfies the constitutionally established requirements in the light of the designation of the Republic of Croatia as a welfare state while ensuring social justice and economic neutrality of the Constitution. Considering the above, it follows that the legislator was free to designate such a legislative solution (to ensure the sustainability of business according to certain criteria) as an objective of public interest. Taking into account the detailed and extensive reasons the Government has listed for adopting such a legislative solution, and taking into account all the risks that threatened the entire economy, the Constitutional Court assessed that the Act has a legitimate aim, and that is to protect the sustainability of business activities of companies of systemic importance for the Republic Croatia, in order to prevent the negative effects on the overall economic, social and financial stability of the Republic of Croatia that could arise from the sudden discontinuity and/or dissolution of such companies.

Since the institute of insolvency or pre-insolvency procedures could not ensure the continuity of business activities of a company of systemic importance and prevent the chain of negative effects on the rest of the economy, the impugned measure was necessary, that is, there was no other less restrictive measure, and the Constitutional Court found that the impugned measure (Act) was necessary to achieve the goal. In light of the assessment of whether the Act places an excessive burden on the debtor as an addressee of the Act, it is emphasized that the aim is to enable a sustainable company of systemic importance for the Republic of Croatia, which has run into financial difficulties (the debtor), to continue its business through financial and operational restructuring, and that the Extraordinary Administration Procedure cannot be conducted without the debtor's consent, which implies that a legitimate aim, apart from financial, can be achieved through operational restructuring.[11] Consequently, the impugned

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[9] *"Croatian Parliament is free to choose economic policy for the positive realization of economic and social rights from the Constitution of the Republic of Croatia. The Constitution of the Republic of Croatia does not guarantee the*
neutrality of the executive and legislative authorities in the field of economic policy, or social market economy which would exclusively be subject to rules that respect market mechanisms. More specifically, the neutrality (tolerance) of the Constitution and constitutional judges towards the economic policies of the legislator, with recognition of parliamentary and governmental responsibility for the economy. The limited constitutional control over the legislator does not reflect the doctrinal attitude of passivity towards parliaments, but it is an expression of an economic constitution that advocates the active role of the state in the economy where the courts believe that the states can pursue very broad goals in the public interest, including the interests of widely understood economic policy." (Decision, 2018, 41).

[10] For example, at the time of the opening of the Extraordinary Administration Procedure against the Agrokor Group,
that is, until 31 March 2017, the total amount of blockages in the accounts of fifteen (15) Agrokor companies amounted to more than 3 billion kuna /HRK 3,030,619,459.00/, of which a total of just over three hundred and twenty one million kuna were repaid /HRK 321,988,729.00/; after the unblocking the total balance in the accounts of these companies was HRK 6.00, the supply of retail companies was extremely difficult or completely stopped, the continuity of livestock and agricultural production was threatened.

[11] In the case of the Agrokor Group, the management of the Agrokor d.d. at the time (in which the proponent Todorić was the president) has brought a decision on 7 April 2017 which initiated Extraordinary Administration Procedure against that company, with its subsidiaries and affiliates. In other words, the Extraordinary Administration Procedure would not have been initiated if the management of Agrokor d.d. at the time did not

measure was found not to be an undue burden on creditors. This is because creditors make a settlement that cannot be concluded without their participation and confirmation; therefore, it depends on them whether the settlement will be concluded[12]. In the Extraordinary Administration Procedure, there can be no question of "expropriation of property" because the Act knows only procedural, but not material (substantive) consolidation. In other words, it is a procedure for settling creditors and restructuring debtors, in which only one single settlement can be proposed.

In conclusion, the Constitutional Court states that placing the Agrokor Group under Extraordinary Administration did not place an additional burden on the State compared to the situation that would arise in the case of applying the usual insolvency rules because the Act allows restructuring without the using public funds. Despite the aforementioned, the Constitutional Court's decision was not adopted unanimously, namely, it was not supported by three judges. In their dissenting opinions, they essentially state that find it problematic that the legitimate aim (which some of them think is absent and not justified) that justifies the adoption of the Act is primarily expressed through the welfare state principle. They believe that the reasons of economic nature just even more convincingly indicate the legislator's interest to introduce such a mechanism into insolvency legislation. They point out the lack of provisions that would enable the implementation of the actions in the EU countries (where the property of the debtor or its affiliates is located). The impugned Act enabled the financial restructuring of the Agrokor Group during the Extraordinary Administration Procedure which resulted in settlement and its successful implementation, namely, on 21 August 2019 the Zagreb Commercial Court rendered a decision declaring that the Extraordinary Administration Procedure against 22 affiliated companies of the Agrokor Group was finalized.

Nevertheless, after the enactment and after the "empowerment" by the Constitutional Court, the impugned Act did not remain "immune" to the criticism of the expert public, which continues to this day. The basic complaint remains that it was designed to "rescue" a private company in Croatia and is still judged to be inconsistent with constitutional principles and existing insolvency legislation.[13]

4. Constitutional Court Decision - *Lex Agrokor* – in the service of protection of social, demographic and national security interests?

In the previous part and chapters of this paper/research we have shown that the Act on Extraordinary Administration Procedure in Companies of Systemic Importance for the Republic of Croatia - *Lex Agrokor* has significantly changed the legal system of the Republic of Croatia, which hitherto regulated bankruptcy law, company law and contractual relations, which have been applied in the Croatian legal tradition for years, and introduced new norms governing specific insolvency situations of companies of systemic importance for the Republic of Croatia. In this part of the paper, due to the complexity and now already "historical legislative precedent", the authors proceed from the legal scope, namely the horizontal and

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decide so and thereby agreed to the legal consequences that will arise for the Agrokor Group due to the opening of the Extraordinary Administration Procedure.

[12] The Constitutional Court took into account the effects of the Extraordinary Administration Procedure over the Agrokor Group, which shows that small suppliers were fully disbursed, while medium and large suppliers have so far been paid onn average 40% of their debt (including trade credit for the refinanced suppliers), respectively 50% of the debt with the included margin debt (Decision, 2018, 54).

[13] Čulinović-Herc, E., Zubović, A., Braut, M., Filipović, T. (2018): *The preventive restructuring of companies in difficulties – one-size-fits-all or tailor made solutions,* Proceedings of the Faculty of Law, University of Rijeka, Vol. 39, No. 4, 1447-1478.

vertical reasons for adopting Lex Agrokor, as well as its effects. Also, in this part of the paper the authors will try to identify the key reasons for adopting the Constitutional Court Deicison No. U-I-1694/2017. et al., dated 2 May 2018, as well as how the effects of the Act are reflected in its indirect dependence/connection on various phenomena affecting contemporary threats to the functioning and survival of each state.

Defining contemporary security threats, threats to national security, and in the present case, searching for the elements of linking the Constitutional Court Decision, No: UI-1694/2017 et al. of 2 May 2018, which established constitutionality and conformity of the impugned Act with the Constitution, as well as the Act with elements influencing security threats of the Republic of Croatia can be seen through:

- the introductory part of the National Security Strategy of the Republic of Croatia of 19 March 2002, which was still in force at the time of the adoption of Lex Agrokor, stating the following: "National security of the Republic of Croatia implies (3) security institutions, related into an orderly system of relationships. The Republic of Croatia seeks to build a state of national security in which its freedom, sovereignty and territorial integrity will be ensured within the framework of internationally accepted arrangements, human freedom and rights of its citizens, political and social stability of society, stable economic development in the conditions of market and enterprise freedom, functioning of the legal states, internal order and personal security of citizens, and healthy and stable environmental conditions." (Croatian National Security Strategy, 2002)

- the text of the introductory part of the National Security Strategy of the Republic of Croatia of 14 July 2017, stating the following: "The National Security Strategy of the Republic of Croatia (hereinafter: the National Security Strategy) is the starting strategic document that defines the policies and instruments for pursuing the vision and national interests and achieving security conditions that will enable balanced and continuous development of the state and society" (National Security Strategy of the Republic of Croatia, 2017).

It is through a contemporary understanding of the national interests of the Republic of Croatia that derive from national strategic documents that one can read the horizontal legal achievements or legal outcomes of the Act and of the Constitutional Court Decision. Such a fact is a reflection of the legislative procedure of adopting the Act, and therefore in the very procedure of its adoption, the reasons why the procedure of the adoption of the Act started, the Government of the Republic of Croatia in the introductory part of the draft Act explicitly identified the aforementioned security threats that could arise if the Act itself does not take enter into force. Also, the primary reasons for the government's legislative activism in terms of adopting the Act in question are reflected in the totality of economic, social and financial stability of the Republic of Croatia, which are the elements that constitute interrelated phenomena that may affect the totality of national security threats. Therefore the Government in the introductory part of the Act on Extraordinary Administration Procedure in Companies of Systemic Importance for the Republic of Croatia – *Lex Agrokor* names the following reasons for adopting the Act: "*In light of the concept of the Republic of Croatia as a state in which entrepreneurial and market freedom are the basis of the economic organization and the Republic of Croatia as a welfare state, the proposed Act regulates the aforementioned issues with respect to the following relevant constitutional principles, guarantees and the highest values of the constitutional order:- responsibility of the state in promoting economic progress and social well-being of citizens and economic development of all its regions - social justice as one of the highest values of the constitutional order .... Its goal is to protect the sustainability of business activities of companies of systemic importance for the Republic of Croatia that, through their business, independently or together with their subsidiaries or affiliates, affect the overall economic, social and financial stability of the Republic of Croatia. Considering that the state is obliged to ensure economic stability and sustainability of public finances, as well*

as to stimulate economic progress and social well-being of citizens and economic development of all regions, the aforementioned objective is completely legitimate .... The measures and rules prescribed by this Act contribute to the realization of a clearly established legitimate aim and form part of the overall public policy measures of the Government of the Republic of Croatia aimed at: social justice, responsibility and solidarity - the rule of law, legal certainty and respect for legitimate expectations"[14]

The quoted Government's explanation/reason for adopting the law in question, which has been forwarded to the Croatian Parliament for further action, clearly depicts the legal complexity of the Act, namely the horizontal legal effect. The importance of aforementioned reasons for adopting the Act in question will affect the adoption of the draft Act by the Croatian Parliament. In the context of establishing the connection between the Act and the Constitutional Court Decision with the elements and principles of social stability of the society-state (welfare state) and the totality of economic prosperity - economic stability, Grubišić Šeba in her research notes the causal relationship and claims the following: "*Agrokor needed to be rescued as soon as possible to prevent a sequence of bankruptcies in the economy. The media especially highlighted tens of thousands of endangered small suppliers - particularly family farms that are threatened by the collapse and insolvency due to the expected insolvency of Agrokor. It was argued that the existing legal solutions that enabled insolvency and pre-insolvency settlement were not effective enough for business groups and that the slowness of their procedures would cause numerous economic consequences such as jeopardizing employment in Agrokor and threatening business continuity and survival of the entire group. It could then be concluded that Agrokor is too big and too important for the economy to fail.*" (Grubišić Š, 2018, pp. 187).

Following this reasoning and the research of determining the causal relationship between the failure to adopt Lex Agrokor and what consequences it would have on the Croatian economy, the loss of jobs, and anything else that would result from this, perhaps is best reflected through the dispersion of stakeholders who have noticed such connection. In addition to the Government's reasons for adopting the Act, the Domestic Policy and National Security Committee of the Croatian Parliament, by its Conclusion of 27 October 2017, requested the Security Intelligence Agency (SOA) to report on the situation in Agrokor and possible consequences related to the possible threat to national security in the Republic of Croatia.[15]

Following the Conclusion of the Domestic Policy and National Security Committee of the Croatian Parliament, the Security Intelligence Agency submitted the Report to the Committee. Since the Report was EUCI classified/closed to the public, the content of the Report as well as the connectivity between the issue of Agrokor as a company of systemic importance for the Republic of Croatia and the threats to national security can be seen in a later Security and Intelligence Agency Report from 2018, which states the following: "*In the past, SOA has given particular attention to supporting the competent state bodies protecting the economic system of the Republic of Croatia, as was the case with Agrokor. SOA, based on its competence in protecting the economic system of the Republic of Croatia and combating economic crime, reported on the circumstances and possible consequences of the Agrokor case on the national security and economic interests of the Republic of Croatia and Agrokor is legally defined as a*

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[14] From the point 1 of the Proposal of the Act on Extraordinary Administration Procedure in Companies of Systemic
Importance for the Republic of Croatia. Fundamental issues that need to be regulated by the Act of 31 March 2017 submitted by the Government of the Republic of Croatia to the President of the Croatian Parliament,

[15] Report of the Domestic Policy and National Security Committee discussing Agrokor (2017): ***Possible undermining of the economic Interests of the Republic of Croatia*** of 27 October 2017. More about the report on the website; https://www.sabor.hr/radna-tijela/odbori-i-povjerenstva/izvjesce-odbora-za-unutarnju-politiku-i-nacionalnu- sigurnost-255, (accessed 27 February 2020)

company of systemic importance for the Republic of Croatia... In addition, at the request of the Domestic Policy and National Security Committee of the Croatian Parliament, SOA produced a report on the state of Agrokor and its possible impact on national security." (Security and Intelligence Agency Report, 2018).

How does the totality of economic activities and the economic situation of a country affect the social dimension in the context of achieving social rights and the fulfilment of the provisions of the Constitution of the Republic of Croatia, and in particular, as stated earlier in the paper, the provisions of Article 1, stating that the Republic of Croatia is a welfare state, as well as the provisions of Article 49, paragraph 3, which stipulates that the state promotes economic progress and social well-being of citizens and takes care of the economic development of all its regions, the evidence of the protection of constitutional provisions through the prism of the Act and the Constitutional Court Decision can also be seen through other relevant parameters. Hence the Report of the Croatian Prime Minister M.sc. Andrej Plenković to the Croatian Parliament on the Government's work in the first year of his term shows the actual situation and the consequences that might have happened if the Act had not been adopted. Therefore, the text of the Report states the following: "... The audited financial statements of Agrokor have shown the gravity of the problems that have existed in the company for years. And all this in a company that employs over 58,000 people, 28,000 of them in Croatia[16], and whose income many citizens depend on, and which hence has a systemic impact on the entire Croatian economy. The uncontrolled insolvency and collapse of Agrokor, which was the only realistic possibility at the time, would have unprecedented consequences on our industry, agriculture, tourism, budget, but above all it would impact tens of thousands of businesses related to Agrokor. Konzum's suppliers alone employ more than 149,000 people." (Annual Report of the Croatian Government, 2018).

The information provided on the number of people (in)directly involved in the work of the Agrokor Group, which the Government mentioned in its Annual Report, should be linked to two key points/principles which they undoubtedly influenced or still influence: 1.) the social justice/welfare state principle and the fulfilment of constitutional provisions, referred to in the Constitutional Court Decision, because the preservation of jobs and payment of regular monthly benefits to employees, as well as the fulfilment of obligations towards suppliers by the Group affect the social stability of the society and the fulfilment of social needs of those who are (in)directly related to the Group, while also taking care of the economic stability of the Republic of Croatia; 2.) in the regional context, if we just look at the figures in the three most important combines in Slavonia, Baranja and West Srijem, Belje, PIK Vinkovci and Vupik (presentation of business income, number of employees, average monthly salary (proof: diagrams 1 to 9), we can say that regional development and development of all parts of the Republic of Croatia were also taken care of, which is one of the primary interests in the context of national security protection in accordance with the text of the National Security Strategy of the Republic of Croatia from 2017.

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[16] Klepo, M., Bičanić, I, Ivanković, Ž. (2017): ***The Case of Agrokor: The Crisis of the Largest Croatian Company,*** Friedrich Ebert Stiftung, Analysis, November (2017), Zagreb. Regarding the number of employees in Agrokor, in the study "The Case of Agrokor: The Crisis of the Largest Croatian Company", the authors (Klepo, M., Bičanić, I. and Ivanković, Ž.) claim that there were 50 companies with 60,000 people employed in 6 countries, 40,000 of which were employed in Croatia.

Chart 1: Display of business income of Belje d.d.

Source: https://www.fininfo.hr/Poduzece/Pregled/belje-darda/Detaljno/79.
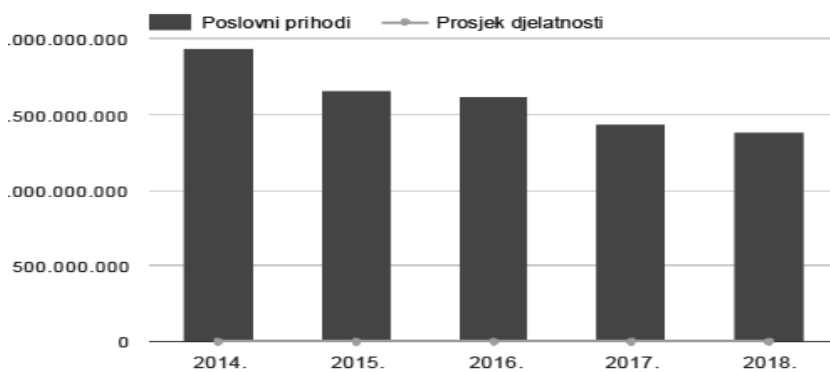
Chart 2: Display of number of employees of Belje d.d.

Source: https://www.fininfo.hr/Poduzece/Pregled/belje-darda/Detaljno/79.
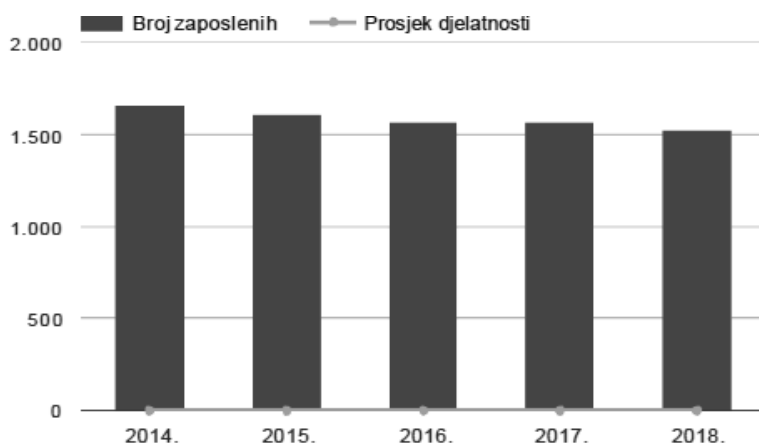
Chart 3: Display of average net salary of Belje d.d.

Source: https://www.fininfo.hr/Poduzece/Pregled/belje-darda/Detaljno/79.
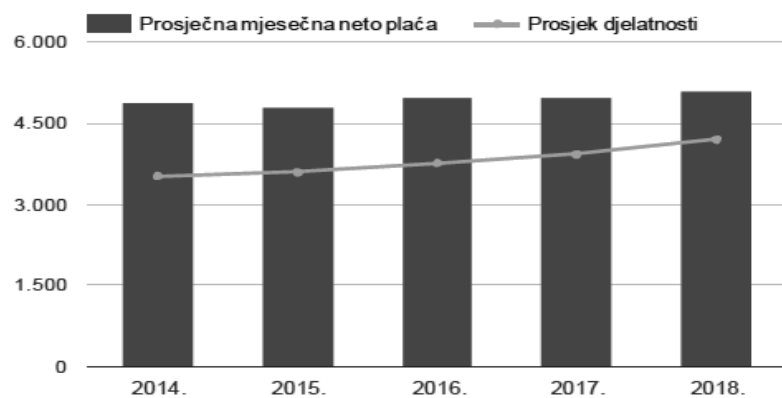
Chart 4: Display of business income of PIK Vinkovci d.d.

Source: https://www.fininfo.hr/Poduzece/Pregled/pik-vinkovci/Detaljno/278
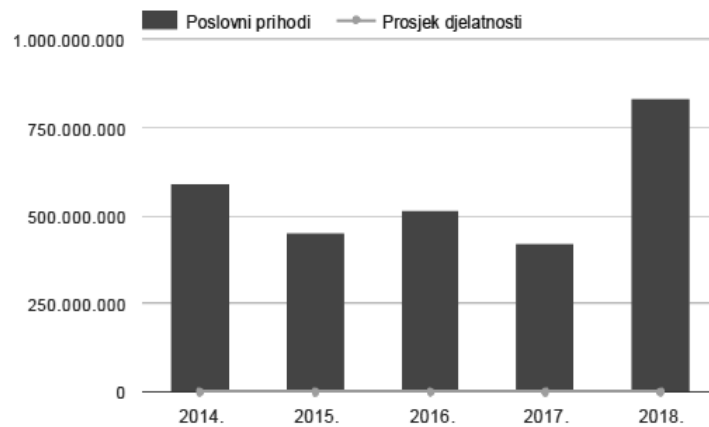
Chart 5: Display of number of employees of PIK Vinkovci d.d.

Source: https://www.fininfo.hr/Poduzece/Pregled/pik-vinkovci/Detaljno/278
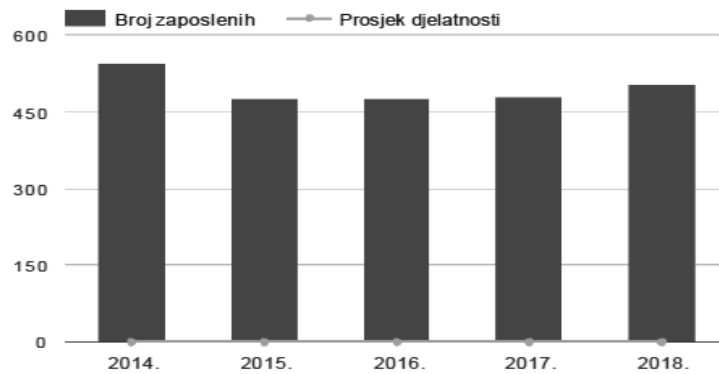
Chart 6: Display of average net salary of PIK Vinkovci d.d.

Source: https://www.fininfo.hr/Poduzece/Pregled/pik-vinkovci/Detaljno/278
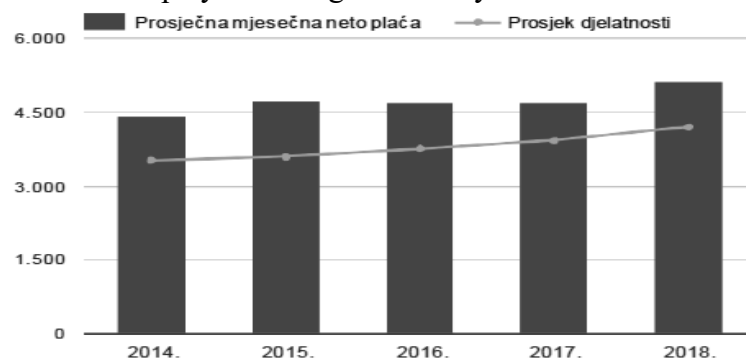
Chart 7: Display of business income of Vupik d.d.

Source: https://www.fininfo.hr/Poduzece/Pregled/vupik/Detaljno/51736
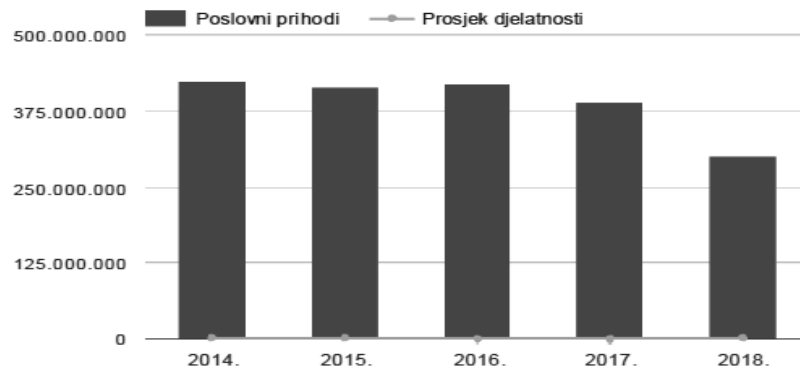
Chart 8: Display of number of employees of Vupik d.d.

Source: https://www.fininfo.hr/Poduzece/Pregled/vupik/Detaljno/51736
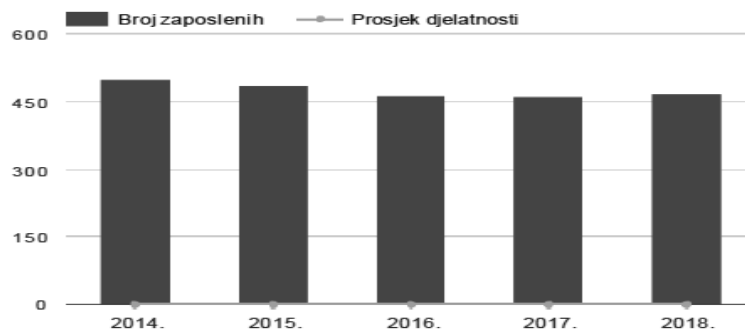
Chart 9: Display of average net salary of Vupik d.d.

Source: https://www.fininfo.hr/Poduzece/Pregled/vupik/Detaljno/51736
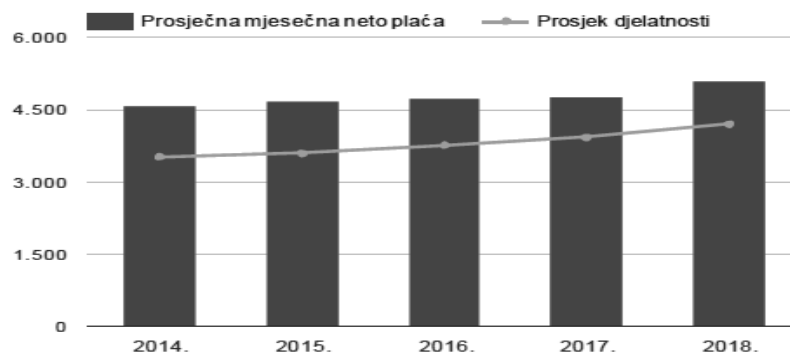
The listed facts on the number of employees and total revenues in the listed companies from the Agrokor Group in the Eastern Croatia clearly depict the importance of the stability of the work and the survival of these companies, which may arise from the Government measure of the Act in question, as well as the Constitutional Court Decision, which regulates the protection of the principles of the welfare state and the economic stability in the Republic of Croatia. From the figures (diagrams) it can be concluded that there were no general negative trends in business and economic "strikes" on business during the crisis in the Group. Also, the diagrams

demonstrate that the Act and the Constitutional Court Decision have further confirmed the stability of business activities of these companies (Belje d.d., PIK Vinkovci d.d., Vupik d.d.). The indicators of business security, regular payments of monthly workers' salaries and job retention can rightly be said to be the initiators of measures of human resources retention in the area of Slavonia and Baranja and West Srijem. In a broader sense, it could ultimately be concluded that the aforementioned indicators of business activity of the companies from the Agrokor Group are simultaneously indicators of demographic measures. Furthermore, confirmation of the thesis of this paper/research, considering the significance of the number of employees of the three companies in the Agrokor Group, the job losses in the companies, as well as the blockage of business at the time of passing the Act in question, can be seen through appeals in the media such as "Slavonia and Baranja will be hurt again", in which the example of Slavonia and Baranja was taken in the context of a possible job threat at the moment of the crisis in the Agrokor Group. Such messages, even if transmitted by "spiritual authority" could undoubtedly have influenced the totality of judgment and were significant in passing the said Act, as well as the Constitutional Court Decision.[17]

This Act is of strategic importance for the totality of economic and social stability of the Republic of Croatia, which is evident in the press statement by the President of the Constitutional Court Miroslav Šeparović; "If the Government did not adopt Lex Agrokor, it would violate the provisions of the Constitution on the welfare state"[18], and in the broad interpretation, we may notice the provisions of strategic documents of the Government of the Republic of Croatia, in particular the Program of the Government of the Republic of Croatia for the term 2016-2020 in the part referring to equal development of all parts of Croatia[19], the provisions of the Regional Development Strategy of the Republic of Croatia for the period up to the end of 2020[20], in the part dealing with the equitable economic development of all parts of the Republic of Croatia, and in particular the National Security Strategy, which states the following: "The Republic of Croatia will create conditions for the dislocation of certain industrial activities from major industrial centres towards less developed and populated areas by policies and measures of stimulating industrial and food production, which will have a positive effect on demographic revitalization and more equitable economic development, and will encourage the maintenance and improvement of agriculture." (National Security Strategy, 2017).

Following the presented strategic documents, and determining the substantive reasons for the adoption of the Act and the Constitutional Court Decision, a clear link is made between reciprocity and dependence between the Act, the Decision and its possible influence in the regional sense, with respect to implementation of the elements of the welfare state, social justice, security, the pursuit of a legitimate aim and the rule of law. Ultimately, all this influences the protection of national security elements that affect the legal, economic and social viability of each country.

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[17] Msgr. Hranić, Đ. (2017*): "Archbishop Hranić on Agrokor: Slavonia and Baranja will get hurt again"*, Index portal, /https://www.index.hr/vijesti/clanak/nadbiskup-hranic-o-agrokoru-opet-ce-nastradati-slavonija-i-baranja/963873.aspx, (accesed 27 February 2020). The Archbishop comments on the possible problem and the consequences that the issue of the Agrokor Group could have on Slavonia and Baranja, in an interview with the daily press Glas Slavonije.

[18] Šeparović, M. (2018): *Decision of the Constitutional Court of the Republic of Croatia, No. U-I-1694/2017 et al. of 2 May 2018,* interview published in magazine Lider on 8 May 2018. https://lider.media/aktualno/separovic-da-vlada-nije-donijela-lex-agrokor-povrijedila-bi-odredbe-ustava-o-socijalnoj-drzavi-44843, (accessed 27 February 2020)

[19]Source;https://vlada.gov.hr/UserDocsImages/ZPPI/Dokumenti%20Vlada/Program_Vlada_RH_2016_2020.pdf , (accessed 27 February 2020)

[20] "Official Gazette" No. 75/17.

5. Conclusion

In this paper, the authors have considered the decision of the Constitutional Court of the Republic of Croatia in the case called "*Lex Agrokor*". The impugned Act regulates the specific insolvency situations of the companies that are of systemic importance for the Republic of Croatia, and it enabled the financial restructuring of the Agrokor Group. The Constitutional Court divided all the petitioner's complaints into: a) formal agreement complaints and b) formal disagreement complaints and examined them in detail. Despite the fact that the Constitutional Court Decision is subject to numerous objections by the specialised public, we believe that the Constitutional Court issued a very thorough and high-quality solution based on the concept of the welfare state and social justice. The authors of the paper went a step further and analyzed *Lex Agrokor* in the service of protection of social, demographic and national security interests and came to the conclusion that the adoption of *Lex Agrokor* covered development of all parts of the Republic of Croatia, which is one of the primary interests in the context of national security protection, in accordance with the National Security Strategy of the Republic of Croatia from 2017. Stability of business and survival of particular companies such as Belje d.d., PIK Vinkovci d.d., Vupik d.d. is extremely important for the Eastern Croatia, the region most affected by population displacement. Cessation of business of the above companies and the loss of jobs would further cause displacement of the population. Considering the aforementioned, we conclude that *Lex Agrokor* was adopted in the service of protection of social, demographic and national security interests, and the Constitutional Court confirmed and further justified it.

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ECONOMIC CONSEQUENCES OF CORRUPTION IN CROATIA

ABSTRACT

The phenomenon of the corruption has been, so far, observed through its penal aspect, although lately more authors researched its effects to certain national economies, but such researches are still insufficient, especially in Croatia. We have conducted our research of the corruption and its economic consequences in Croatia, during last 20 years, under its specific circumstances, in a mature phase of the transition of the Croatian economy. In our article we have set the goal to research the connection and influence of the corruption to the important economic indicators, such as government net lending/borrowing, unemployment, current account balance, etc. Basic hypothesis of the conducted research was that the higher corruption rate in Croatia has worsened the above-mentioned macroeconomic indicators, and that stronger social efforts are necessary in its suppression. Thorough analysis of the available data, their statistic processing and testing of the set basic hypothesis, have brought us to the conclusion that the higher level of the corruption has a negative effect on net lending/borrowing, and at the same time it increases unemployment and negative current account balance, and other macroeconomic indicators. The reform of the institutional form of the suppression of the corruption in Croatia, as well as changes of the legislative frame, have led to certain positive movements in the revealing of the corruptive activities, but it is still significantly present. We can also still notice positive movements on the suppression of the corruption in 5 counties in Slavonia, whereas the most of the corruptive actions were disclosed in Osijek-Baranya and Vukovar-Srijem County. The structure of the disclosed corruptive actions shows insufficient number of submitted reports for bribery, caused by difficulties in obtaining of the relevant evidence. Suppression of the corruption in Croatia is especially important in order to make easier achievement of certain macroeconomic goals.

Key words: *corruption, net lending/borrowing, unemployment, current account balance, GDP per capita.*

1. Introduction

Corruption is without doubt taken as a negative activity, whereas its consequences can be limited, but they also can affect the whole society. Modern definition of the corruption can arise from its dominantly moral, legal, administrative, economic, sociologic or some other conception. For most of the times, corruption is understood as an immoral act through criminal-justice frame, while the perpetrators are punished, as their corruptive activities endanger social moral of the community. However, corruption has multidimensional effects and it is connected to many other social phenomena. Many of contemporary authors research economic phenomenon of the corruption, as well as cause-and-effect relations with other macroeconomic values, such as: level of GDP and its growth rate, inflation, quality of the infrastructure, allocation of the public spending, total investments, direct foreign investments, etc. In countries

with high level of corruption, their citizens have high lack of confidence in the institutions, and at the same time very low or none whatsoever expectation that their civil rights or business activities would be realized in an honest and legal way. In the societies with high level of the corruption, citizens often try to realize their rights by more efficient corruptive means within or outside of the corruptive institutions, whereas they become corrupted themselves. Such an economic system assumes totally distorted economic courses, where significant financial funds are distributed into wrong and socially non-profitable businesses. Moreover, budgets financial funds are spent in a socially unjustified way and needs of the citizens are not satisfied, which increases the price of the necessary services. Highly corruptive countries have mostly lower rate of the economic growth, and above-mentioned occurrences are often correlated. Also, high level of the corruption is, in its basis, contrary to fair business, because market courses are totally diverted and there is no fair market play. Corruption often results in higher stratification of the citizens' standard, decrease of the middle class of the citizens and significant increase of the poverty. In highly corruptive countries there are often higher rates of un-employment and lower rates of employment, emigration of the population in other, more developed countries, etc. Because of everything aforementioned, this research will show that Croatia is not immune to such negative effects of the corruption to certain important macroeconomic indicators.

2. Short overview of the past researches of the influence of the corruption to the economy

One of the contemporary social phenomena that have interested several authors to research its influence to the economy, is definitely „rent-seeking". Baumol (1990) has proved, by using historic sequence of evidence, that „rent-seeking" has a negative influence to the entrepreneurship and economic growth, whereas the structure of the rewarding is directed against production and entrepreneurship. On the other hand, Murpyh et al. (1991) have updated Baumol's research, and came to the conclusion that „rent-seeking" has negative influence to the economic growth. Acemoglu (1995) and Mauro (1995) have also showed that the corruption and „rent-seeking" have influence to movement of certain economic resources towards nonproduction activities, whereas existing income of the „rent-seeking" is protected by corrupted civil servants.

Brumm (1999) has established that „rent-seeking" has a negative influence to the economic growth, by using data on employment, lobbying, for certain federal states of the USA. Barro (1991) have concluded that there is a negative influence of the „rent-seeking" to the economic growth and public expenditure. Cole and Chawdhry (2002), in their researches, used data on the number of registered interest organizations for lobbying in legislative body of a state and density of the interest organization compared to the size of the national economy, whereas they used similar approach to the measurement of the „rent-seeking" as Brumm, and came to the same conclusion, but additionally have concluded that there were indirect negative effects of the „rent-seeking" to public investment and public services. On the other hand, Tanzi and Davoodi (1997), have among other things in their research established that high corruption is connected to high public expenditures of the capital. Bandeira et. al. (2001) have established that the level of the institutional development can affect factor productivity, whereas corruption decreases the productivity of the capital, productivity of the effective human capital and total factor productivity. Several authors have in their researches established negative influence of the corruption to the economic growth, such as Knack and Keefer (1995), Sachs and Warner (1997), Pellegrini and Gerlagh (2004). Aidt et. al. (2008) have concluded that corruption has a strong negative influence on economic growth in the countries with high quality of the institutional system, and vice versa, i.e. economic growth influences reduction of the corruption. Mauro (1995) was researching data of the corruption level height etc. for a total of

68 countries between 1980 and 1983, and concluded that corruption and other factors had negative influence to the investments and economic growth, and especially to the growth of the GDP per capita.

Several authors have established that corruption has a negative influence to the economic growth: Brunetti (1997), Poirson (1998), Li et al. (2000), Mo (2001), Abet and Davoodi (2002), Leite and Weidmann (1999) and Gyimah-Brempong (2002). Meon and Sekkat (2005) have concluded that corruption have significantly negative influence to the growth of the GDP per capita, while interaction of the corruption and bad jurisdiction, as well as interaction of the corruption and government inefficiency have significantly negative influence to the economic growth rate. On the other hand, some authors like Ehrlich and Lui (1999), Kaufmann et al. (1999), Neeman et al. (2004) and Welsch (2004) have concluded that corruption have negative impact to the economic growth. Aizenman and Glick (2003) have calculated, that if the corruption is lowered for one index point, then GDP would increase for 0,5%, while Gyimah-Brempong's calculation have showed growth of 0,39-0,41%. Guetat (2006) was researching determinants of the economic growth in 90 countries in the period of 1960-2000, whereas he especially concentrated on the influence of the corruption through investments and human capital in the countries of Middle East and Northern Africa, and he had established significant negative influence of their respective bad institutional system to the economic growth.

Rock and Bonnett (2004) have established one peculiarity of the newly developed East Asian countries, where economic growth is at a high level despite high levels of corruption. Such occurrence is specially recognized as „East Asian Paradox", and the authors explain its existence by specific patrimonial relations in the sense of protective-clientelist network that exists along with the structure of power between governmental patrons and participants of the civil society. Rose-Ackerman (1978), as well as Becker (1968) have researched corruption of the control, market structure and data. Correlation of the corruption and market structure have been researched, but with different conclusion, by some other authors, such as Bliss and Di Tella (1997), Weinschelbaum (1999), Svensson (1999), Ades and Di Tella (1997, 1999), as well as Laffont and N'Guessan (1999). Shleifer and Vishny (1993), have considered that the corruption has negative influence to the social investments and at the same time to the economic growth and development, which they have particularly analysed at the examples of the transitioning Russia, Philippines and some African countries. The authors have concluded that discretionary dark side of the corruption results in public investments to be diverted from high value projects towards the ones that have no socially useful value. Mauro (1996), Brunetti et al. (1998), Mo (2001), Lambsdorff (2003), Pellegrini and Gerlagh (2004), have concluded that the countries with higher level of corruption have significantly lower investments rate. Campos et al. (1999) have concluded that high level of corruption delays investment, but that such a negative influence after all decreases with higher level of its predictability. Wei (1999), as well as Smarzynska and Wei (2000) have concluded that corruption has the same effect as the tax that discourages direct foreign investments. Authors, such as Abed and Davoodi (2002) have similar conclusion; they have included transitioning countries into their researches, and have considered corruption to significantly decrease direct foreign investments. Nevertheless, some other authors, like Pellegrini and Gerlagh (2004) came to the conclusion in their researches that there was no direct influence of the corruption to the economic growth, i.e. that this influence is indirect. They have considered that corruption has a negative influence to the investment, education, business policy and political stability, which can influence economic growth indirectly. Lambsdorf (1998) has analysed macroeconomic data among several countries and has established that exporters from the countries that have lower level of corruption face problems when importing countries have high level of the corruption.

Rose-Ackerman (1997) has established that corruption on microeconomic level can indeed bring benefits to an economic subject, but at macroeconomic level it creates significant economic loss by creating uneven economic conditions. It is interesting that Alesina and Weder (2002) in their researches have among other things concluded that certain number of corruptive elements have positive relation to the inflow of subventions per capita. Tanzi and Davoodi (2002) have researched influence of the corruption to the quality of the public infrastructure and have established that corruption influences decreasing of the road quality and increases number of cut-outs of the electric power. Friedman et al. (2000) have analysed portion of tax incomes within GDP and have established that corruption influences increasing of the grey economy. Johnson et al. (1997) have similar conclusions when researching 49 Latin America countries, as well as OECD countries and some East Europe countries, and they have established that countries with higher level of corruption have bigger grey economy. Mauro (1998) has concluded that corruption influences reduction of state expenditure for education. Gupta et al. (2001) have established that corruption government tends to increasing of military expenditures. Mo (2001) concluded that countries with higher level of corruption have lower annual average of its citizens' education. It is interesting that such results have not been confirmed by researches of Pellegrini and Gerlagh. Bai and Wei (2000), Dreher and Siemers (2003) have established that corruption influences more limits at the capital account.

Some authors, like Gupta et al. (2002), directed their researches to the influence of the corruption to increasing of poverty in the society and income inequality, i.e. they have concluded that corruption strongly influences income inequality in the society. On the other hand, Foellmi and Oechslin (2003) have considered corruption to influences increasing of the share of the richer part of the society in the total income. However, some other authors, such as Li et al. (2000) have concluded that initial increasing of the income inequality caused by corruption, later can be significantly reduced. Rahmani and Yousefi (2009) have concluded that corruption positively influence the inflation, even when the rate of the growth of the money supply is included in the regression analysis. Al-Marhubi (2000) has established that reducing of the corruption for one point at the same time reduces the logarithm of the average annual inflation for 0,17-0,26%. Abed and Davoodi (2002) have, at an example of the transition countries, have concluded that corruption have positive effect to the inflation, but with realization of the structural reforms, it has no more such positive influence. Honlonkou (2003) has also established in his research that corruption strongly affects changing of the consumers' prices. Bahmani-Oskooee and Nasir (2002) have shown, at a sample of 65 countries, that the higher level of the corruption influences depreciation of the home currency towards foreign ones, which consequently could affect international trade. Piplica (2011) has concluded that corruption has positive influence to the inflation in the transition countries EU members, but that their correlation is of weaker intensity. Nevertheless, by researching correlation of the corruption and economic growth in Croatia and transition countries EU-members, Piplica and Čovo (2011) have established that reduction of the corruption influences increasing of the economic growth.

3. Comprehension and measuring of the corruption

The word corruption has etymological roots in latin „corruptionem", whereas a corrupted person could be someone whose acting results in a certain „failure or some kind of destruction", i.e. such person could be characterized as a „depraved or destructive". However, comprehension of the corruption is not totally without ambiguity, and today there are various evaluations of the term. Definition of the corruption is important for its very comprehension, but also for

pragmatic reasons, in order to enable its adequate reduction, to determine legislative frame, measure its distribution, establish the damage to the society, etc.

However, modern definitions of the corruption are not integral in determining the phenomenon, and they are more or less exposed to some criticism, as they grasp either too little or too much of its comprehension. The Strategy of the Reduction of the Corruption, presented by Croatian National Parliament at the 19th June 2008 session (NN 75/08, dd 01st July 2008), it is stated that „the corruption is harmful social occurrence that damages basic social values.” It is historical, psychological, sociological, economic, political and legal phenomenon. In a larger sense it is every abuse of public authorities for gaining private benefits. In narrower sense, corruption can be defined as an act of prohibited exchange between public servant and some other person, in order to gain personal benefits. It is every act by which, to the contrary of the public interest, without doubt moral and legal norms are breached and basis of the justice are violated. This strategy has had somewhat larger comprehension of the corruption, which is partly understandable, since its narrower comprehension was comprised through separate paragraphs of the Criminal code. In the National programme of the campaign against corruption Croatian ministry of interior, it is stated that „in the largest sense corruption is every form of abuse of public authorities for gaining personal or group benefits, whether it is public or private sector.” In the Article 2. of the Civil Convention of the European Council on corruption (NN 6/03, dd 14th March 2003), it is defined as „asking for, offering, giving or receiving, directly or indirectly, of the bribe or any other illegal benefit or a possibility of gaining such a benefit that violates regular conduction of any duty, or behaviour requested from the receiver of the bribe, illegal benefit or possibility of gaining such benefit.“ We can say that the prevailing comprehension of the corruption is abuse of the public authorities or breaching certain rules for personal benefit.

Considering that the corruption activities are conducted secretly, and very often in one-on-one talks, measuring of the corruption is very difficult, because of its no transparency. Therefore, it is a justified question what model of measuring the corruption could be the most objective and express its real size in a society. Reports against certain persons for corruptive penalties, as well as proceedings and sentences could not be adequate measurement of the distribution of the corruption in a society, because they are mostly related to disclosure activities of the state bodies in corruption reduction. The most common measuring of the corruption in certain social systems are based on the perception of the certain category of the citizens of its distribution. Definitely, the most common is Corruption perception index (CPI), which is in use since 1995, and today is used for measuring corruption worldwide. Index valuates corruption in a country in the range of 0 points, that would mean the most corrupted country, up to 100 points (it used to be up to 10 points, before), that would mean that this is a country without corruption. CPI measures the level of the perception of the corruption related to public servants and politicians, and basis for measuring are perceptions, researches and estimations through polls with questions relate to bribing of the public servants, corruption in public procurement, embezzlement of public funds, etc. It also researches determination and efficiency of certain state bodies and social community in reduction of the corruption. The problems in using this index can arise because of non-standardized system of points from every source, so certain procedures of standardization are implemented, by using certain technics. In using the mentioned index Transparency International uses several researches and estimations of different institutions, such as African Development Bank, Bertelsmann Foundation, Economist Intelligence Unit, Freedom House, Global Insight, International Institute for Management Development, Political and Economic Risk Consultancy, The PRS Group, Inc., World Economic Forum, World Bank, World Justice Project i etc. Considering the aforesaid, we will use CPI in our research as the most suitable

index for measuring the corruption. Apart from CPI, today there is also Global Corruption Barometer (GCB), which is also used by Transparency International, which measures the size of the corruption by using direct public opinion research. Furthermore, in its activity, Transparency International uses also Index of readiness to receive bribe, which establishes readiness of certain companies in a country to accept corruptive business practises, where entrepreneurs in a country comment corruptive business action.

4. The impact of corruption on certain macroeconomic indicators in Croatia

In our research for measuring corruption in Croatia, we will use Corruption perception index, and we will put it into correlation with 5 macroeconomic values, as follows: Current account balance, General government net lending/borrowing, GDP per capita, Inflation and Unemployment rate. Our research of the influence of the corruption to certain macroeconomic values was made for the period of 1999 – 2018, when Croatia has entered more mature period of its transition. Previous data for the corruption level were not available, since Transparency International did not publish data for the period. These data let us look at table no. 1.

Table 1: Corruption and certain macroeconomic indicators in Croatia, 1999-2018

A	B	C	D	E	F	G
1999	27	-6,4	-7,2	54431	3,8	18,6
2000	37	-2,2	-5,6	58701	5,4	20,6
2001	39	-2,9	-5,9	61800	2,5	21,5
2002	38	-7,1	-3,5	65047	1,8	21,8
2003	37	-5,9	-4,7	68661	1,7	19,1
2004	35	-4,1	-5,2	69211	2,8	17,8
2005	34	-5,2	-3,9	72007	3,6	17,6
2006	34	-6,5	-3,4	75546	2,1	16,5
2007	41	-7,1	-2,4	79609	5,8	14,7
2008	44	-8,8	-2,8	81266	2,9	13,0
2009	41	-5,1	-6,0	75426	1,9	14,5
2010	41	-1,1	-6,3	74500	1,8	17,2
2011	40	-0,7	-7,9	76622	2,1	17,4
2012	46	-0,1	-5,3	75088	4,6	18,6
2013	48	0,9	-5,3	74930	0,3	19,8
2014	48	2,0	-5,1	75182	-0,5	19,3
2015	51	4,6	-3,2	77609	-0,6	17,1
2016	49	2,5	-1,0	80931	0,2	15,0
2017	49	3,5	0,8	84285	1,2	12,4
2018	48	2,5	0,2	87263	0,9	9,9

A -Year, B – Corruption CPI, C – Current account balance /Percent of GDP, D - General government net lending/borrowing, Percent of GDP, E - GDP per capita, constant prices National currency (kuna), F - Inflation, end of period, consumer price, G - Unemployment rate Percent of total labour force

Source: Transparency International, WEO data

Average value of the corruption in the observed period of 1999-2018, calculated by CPI method, amounts 41,35, which means that average level of the corruption in Croatia is not satisfactory in comparison to the other countries EU members. Variation coefficient amount 15,52, so we can consider that the distribution is relatively homogeneous. It is also obvious that average Current account balance/Percent of GDP amounts -2,63%, which is especially negatively affected by unfavourable balance of trade. Average deviation of the average for

Current account balance/Percent of GDP amounts 4,1067. The worst ration of the indicator was in 2008, -8,8%, but last years it has fairly improved and in 2015 it amounted 4,6%. Furthermore, average General government net lending/borrowing, percent of GDP amounts 4,18%. Average GDP per capita, constant prices amounts 73405,75 kunas, which puts Croatia at the bottom of the scale of EU countries. The lowest GDP per capita was in 1999, and it amounted 54431 kunas, and the highest was in 2018, and it amounted 87263 kunas. It is an increase of about 60%, which is not enough for the period of 20 years. Average inflation rate is 2,21% which can be considered satisfactory and it fulfils Maastricht criteria. Average rate of unemployment percent of total labour force amounts 17,12% and it is definitely not satisfactory. However, in recent years the mentioned rate has been significantly reduced, but partly due to migration of young work force from Croatia. The regression results of our study are presented in table no. 2.

Table 2: Regression Results

Corruption and General government net lending/borrowing Percent of GDP				
R=0,5101	F=6,3312	R2=0,2602	df=1,18	adj..R2=0,2191
p = 0,0215	St.err.of est.:2,0443	Interc.= -11,7884	Std.Err: 3,0562	Corr. b*=0,510
Corruption and Unemployment rate /Percent of total labor force				
R=0,3833	F = 3,1006	R2= 0,1469	df = 1,18	adj. R2= 0,0996
p=0,0952	St.err.of est: 2,9465	Interc: 24,7892	Std.Err: 4,4049	Corr. b*=-0,38
Corruption and Current account balance / Percent of GDP				
R=0,7543	F=23,7615	R2=0,5689	df = 1,18	adj. R2=0,5450
p=0,0001	St.err.of est: 2,7699	Interc: -22,3187	Std.Err: 4,1410	Corr. b*= 0,754
Corruption and Inflation, end of period, consumer price				
R=0,5721	F=8,7572	R2= 0,3273	df=1.18	adj R2= 0,2899
p=0,0084	St.err.of est: 1,5040	Interc: 8,7938	Std.Err: 2,2484	Corr. b*=-0,57
Corruption and GDP per capita in Croatia, constant prices National currency				
R=0,7332	F=20,9343	R2=0,5377	df=1.18	adj.R2=0,5119
p=0,0002	St.err.of est:5858,6	Interc: 33783,158	Std.Err: 8758,44	Corr. b*=0,733

Source: Author´s calculation

Corruption correlation coefficient measured by the perception corruption index and general government net lending/borrowing as a percent of GDP was positive and it amounted 0,510, which means that they are largely correlated. Efficient actions in reducing the level of the corruption in Croatia has resulted in positive influence on the rate of general government net lending/borrowing. If we consider standard error of estimate of 2,0433, we can conclude that its level signifies similar trend of the correlation of the corruption and general government net lending/borrowing in near future. Positive ration of this indicator in 2017 and 2018 contributes to macroeconomic stability of Croatia. The correlation between corruption and general government net lending / borrowing in Croatia is clear from graph no. 1.

Graph 1: Corruption and General government net lending/borrowing in Croatia 1999-2018

Corruption and General government net lending/borrowing
Percent of GDP
$Y = 47,2722 + 1,4151 \cdot x$
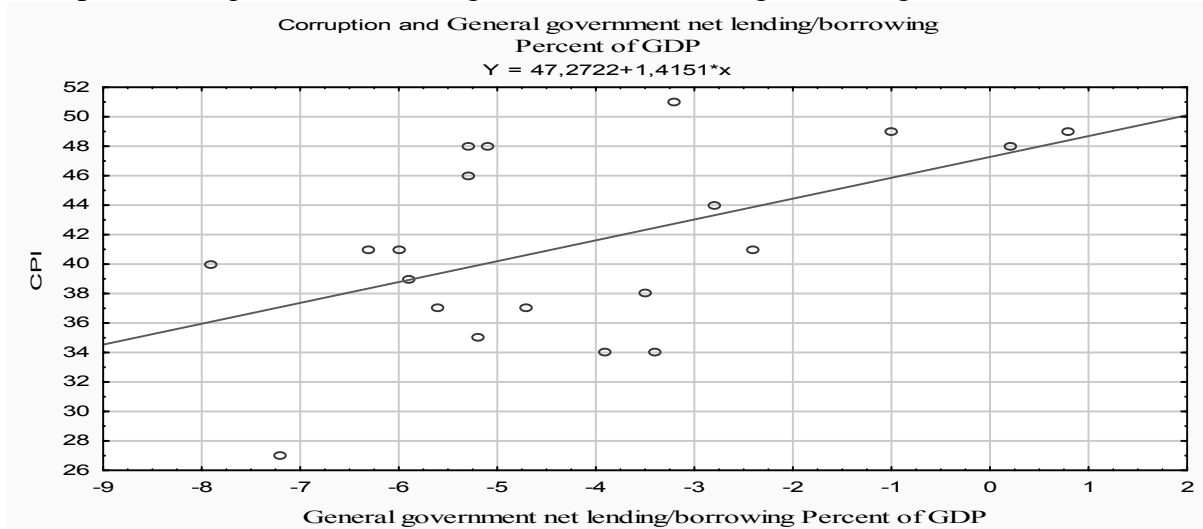
Source: Author's calculation

Furthermore, it is also obvious that reducing of the corruption level has a negative effect to the level of the unemployment rate, but this correlation is weak. It is possible that such an influence would be higher, if some other factors, like migrating of work force abroad, would not influence the level of unemployment. Similar trend of the mentioned ration is to be expected in near future as well. The relationship between corruption and unemployment is obvious in graph no. 2.

Graph 2: Corruption and Unemployment rate/percent of total labour force in Croatia 1999-2018

Corruption and Unemployment rate / Percent of total labor force
$Y = 54,9139 - 0,7923 \cdot x$
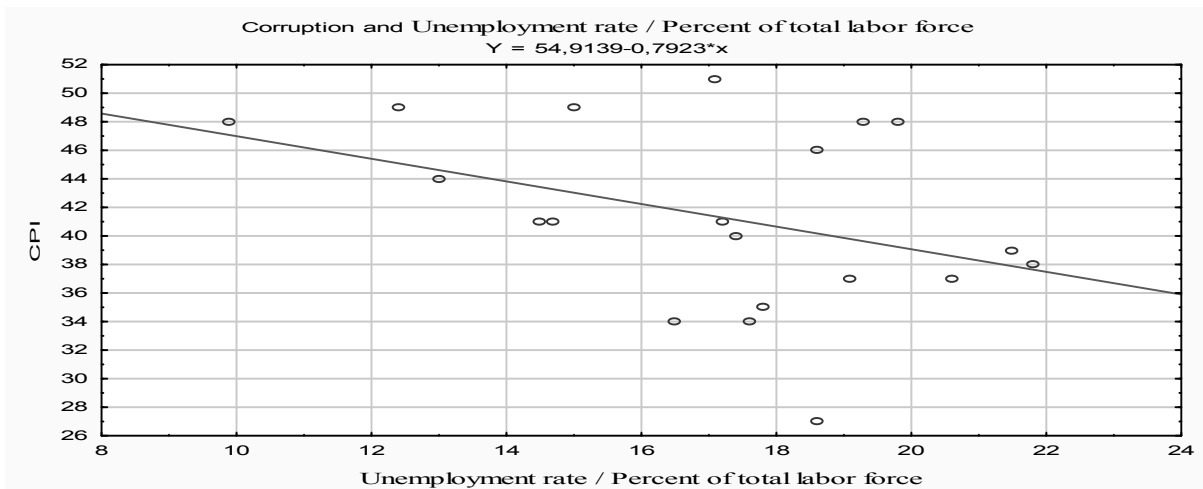
Source: Author's calculation

Reducing corruption has a strong impact on improving the current account balance, so their correlation is high at 0,754. In the period of 2013-2019 Croatia have had surplus of current account balance, arising mainly from increased incomes from tourism and growth of private remittances from abroad, despite lower Croatian international trade. Although the appropriate economy policy measures stimulating the export, always make effect to the international trade, the low corruption in the country also influences the foreign economy subjects to participate in international trade with Croatia. Therefore, the effective suppressing of corruption proves to be important precondition for normal international trade. The positive relationship between CPI and the current account balance is visible in graph no. 3.

Graph 3: Corruption and Current account balance /percent of GDP in Croatia 1999-2018

Corruption and Current account balance / Percent of GDP
Y = 44,132+1,1788*x
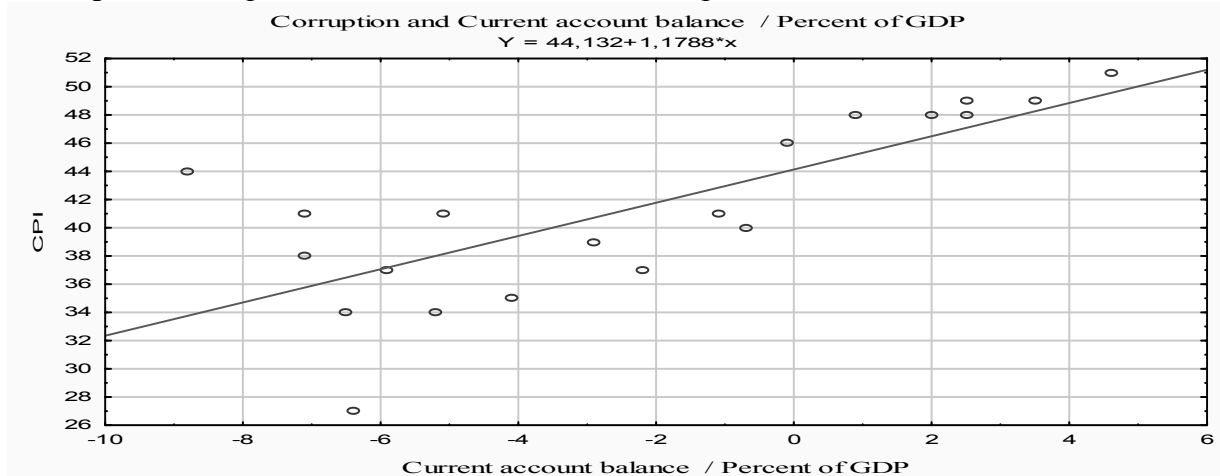
Source: Author´s calculation

Our research proved also that the lower corruption level in Croatia (higher CPI) has relatively strong influence on lowering the inflation as well (let's look at graph no. 4), where the correlation coefficient is negative and amounts -0,57. For the calculation, as a measure of inflation, consumer price index was used for end of period 2014 and 2015. Croatia had even negative inflation rate what, of course, was not good for macroeconomic stability of the country. During the researched period Croatian Central Bank in its monetary policy realized the stability of prices as its main aim. Nevertheless, by the research carried out we have shown that it is not only monetary manipulation that influences the inflation, but also some other phenomena like corruption, what can accelerate or obstruct the implementation of healthy monetary policy.

Graph 4: Corruption and Inflation in Croatia 1999-2018

Corruption and Inflation
Y= 45,9064-2,0571*x
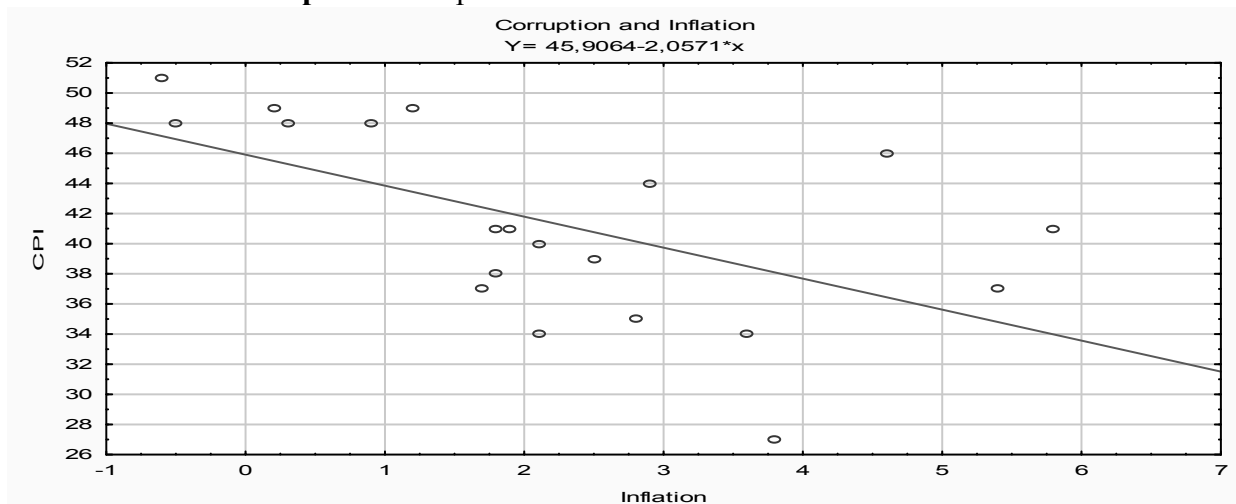
Source: Author´s calculation

Furthermore, lower corruption level (higher CPI) is strongly positively correlated to the growth of GDP per capita, where the stated correlation coefficient in the researched period was 0,733. Although Croatian GDP per capita should have to grow up stronger as to get connected to the average one of EU, it is of high importance the corruption level to be lowered in order to enable the most capable economic subjects and the highest quality employees to realize their abilities on a fair play market. It is to be expected the similar trend of corruption and GDP correlation per capita in the future, what means that the Governmental Bodies competent for corruption suppression, as well as the public, should pay additional efforts to suppress the corruption as

one of preconditions for the growth of Croatian citizens' welfare. Let's look at the relationship between corruption and GDP per capita in Croatia in graph no. 5.

Graph 5: Corruption and GDP per capita in Croatia 1999-2018

Source: Author´s calculation
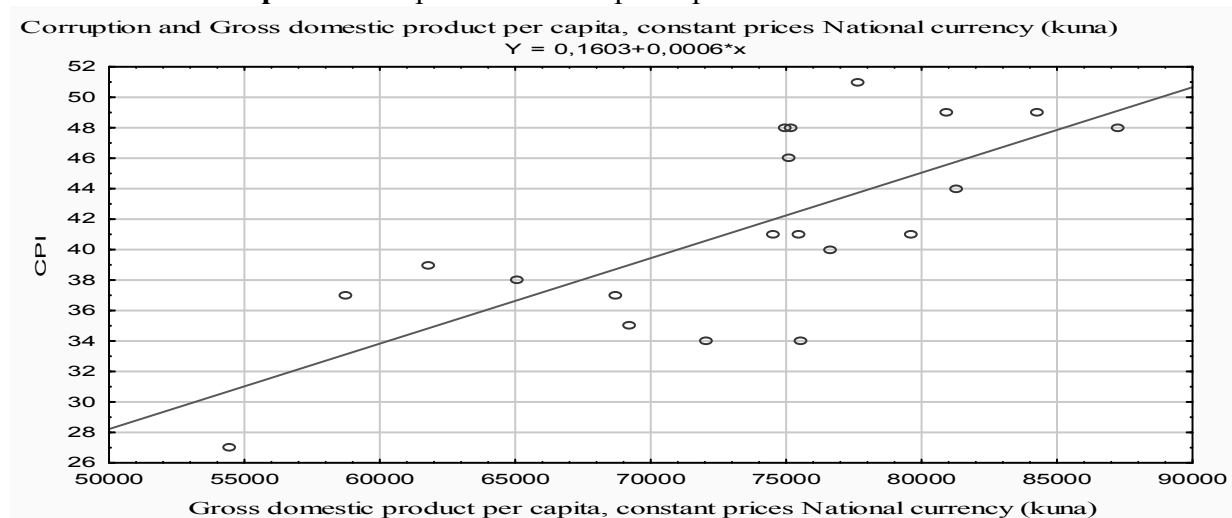
All the aforesaid is additionally confirmed by t-test carried out.

Table 3: T-test

Variab.	Mean	Std.Dv.	Diff.	Std.Dv. Diff.	t	Confidence -95,000%	Confidence +95,000%
		T-test for Dependent Samples, Marked differences are significant at p < ,05000					
A	41,3500	6,417698					
B	-2,36000	4,106657	43,71000	4,276853	45,70581	41,70837	45,71163
C	-4,18500	2,313411	45,53500	5,602845	36,34559	42,91279	48,15721
D	73405,75	8386,556	-73364,4	8381,851	-39,1436	-77287,2	-69441,6
E	2,21500	1,784812	39,13500	7,581437	23,08494	35,58678	42,68322
F	17,1200	3,105106	24,23000	8,130586	13,32744	20,42477	28,03523

A – CPI, B - Current account balance, C - General government net lending/borrowing, D- GDP per capita, E – inflation, F- unemployment

Source: Author´s calculation

5. Suppression of corruption in Croatia

Economic reforms and the transition to the market economy after independency of the Republic of Croatia, required the crucial changes in suppression of corruption activities which got different appearance forms. The transition of social to private ownership rendered the opportunity of unlawful acquiring of immense wealth and the possibility of managing the financial courses of great number of companies. Inefficiency of penalty persecution of corruptive penalty actors resulted with the need for reforms of governmental bodies competent for crime persecution. Therefore, the Ministry of Internal Affairs, State Attorney's Office and Courts, Tax and Customs Authorities and others, had to realize the inevitable organizational and personnel reforms. In the course of realizing the reforms of Governmental Bodies it was not rare that there happened certain organizational inconsistences, improper distinguishing of the respective competences of the Governmental Bodies, lack of criteria for positioning of head persons in the said bodies, etc.

Certain step ahead in combatting the corruption was made by making National program for combating corruption and Plan of action for combating corruption (National Gazette 34/02), what resulted in establishing State Prosecutor's Office for the Suppression of Organized Crime and Corruption (USKOK) as a body attached to the State's Attorney Office, situated in regional centres of Zagreb, Split, Rijeka and Osijek. Establishing of new organisational bodies attached to State's Attorney Office, Police, Tax Authority etc. strictly specialized for prosecuting corruption crime actors or for respective support to such prosecution, the investigation of bigger corruptive scandals took place, what resulted in processing high governmental officials, where the damages caused was measured in tens of millions Euros.

The Criminal Law retained the conception of corruptive crimes like receiving the bribe, giving the bribe, abuse of one's position and authority, abuse of one's authority in doing economy transactions (business), and similar, but new crimes have been also established like hiding of illegally acquired money, abuse of authority in bankruptcy procedure, abuse of authority in public services etc, which were more appropriate to the illegal activities in market economy. Particularly important changes have been made in Crime Process Law which provided for certain authorities and legal means for more efficient prosecution of corruptive crime actors. State Prosecutor's Office got in its competency the investigational actions which were in investigating judge's competence so far. The whole legislative frame is updated by more laws such as the Law on State Prosecutor's Office for the suppression of Corruption and Organized Crime, Law on responsibility of legal entities for criminal acts, Law on protection of witnesses, Law on preventing of Money Laundering, Law on the procedure of depriving of property benefits resulted from a crime or violation, Law on International legal help in Criminal matters, Law on right to approach to information and others. Furthermore, Croatia accepted the Penalty law Convention on Corruption, the Civil Law Convention on Corruption as well as the UN Convention on Corruption. Despite to certain improvements in corruption suppression in Croatia, evidently corruption is still high, what can be proven through Croatian citizens' perception on its broadness. Certain awareness on suppression of corruption are evident from the list of reported corruptive crimes within last ten years. This is just the period, since which the specialised Governmental bodies on suppression of corruption have started their respective activities, as USKOK and PNUSKOK. Let's look at the statistics of corruption offenses in Croatia in table number 4.

Table 4: Corruption crime in Croatia in the period 2008 – 2018

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
2008	6691	398	12		2	1	(654)	0		40	77	94	11		
2009	6583	339	12		0	0	126 (1015)	1		14	83	93	10		
2010	6736	570	24		2	2	327	1		9	90	101	14		
2011	7309	911	12		4	1	468	1		122	182	119	2		
2012	5994	825		0	4	4	402		0		196	203		0	1
2013	6315	1940		0	1	1	890		10		455	522		56	5
2014	6393	920		0	2	0	758		6		61	55		29	9
2015	6340	759		0	0	0	674		7		28	34		13	3
2016	7111	905		0	1	1	656		20		124	98		5	0
2017	7057	761		1	11	0	552		0		95	98		3	1
2018	4292	515		0	0	0	470		0		19	26		0	0

Source Ministry of Interior, statistic bulletin

Explanation A-Years, B – reported economy crimes in Croatia, C - corruption crimes reported in Croatia, D – entering into harmful contract, E – receiving and giving the bribe in bankruptcy process, H – Abuse of position and authority – done by officials, I – abuse of performing governmental service, J – illegal favouring, K – illegal intermediation, L – receiving bribe, M – giving bribe, N – revealing of official (classified) secret, O – trading of influence, P – giving bribe for influence trading.

It is obvious that positive movement of Croatia on the scale of measuring the corruption is slow. According to Transparency International CPI, in 1999. Croatia was on 74 position in the world, in 2005 it was on 70 position of the rank, while in 2008 on 62, and in 2015 Croatia came on 50 position. But then certain backward movement happened, so that in 2016 Croatia takes 55 position, in 2017 is on 57 position and in 2018 on 60 position.

Analysing the reported corruption crimes, the greatest part of them refers to abuse of the position and authority. Corruption actors usually leave some traces in the respective business documentation and elsewhere, what helps in their revealing. Some forms of such crimes may be very sophisticated what supposes a detailed analysis and comparing of different business documentation, while the others are simpler and very often prove arrogancy of a person that got opportunity to serve on a responsible public duty. It appears that in 2014. among 920 reported corruption crimes even 758 referred to abuse of the position and authority, what means even 82,4 percent; in 2015. among 759 reported corruption crimes 674 was of the same kind, or 88,8 percent and among 515 as reported corruption crimes in 2018, it was even 470 due to abuse of the position and authority, i.e. 91,3 percent. At the same time such data show how difficult the corruptive crimes can be revealed as they happen in one-to-one action, not being documented. Just due to it „real" corruptive crimes such as receiving the bribe and giving the bribe are less in number. Nevertheless, in the period between 2011 and 2013 there is higher number of such crimes reported, among which, in 2013 there are even 455crimes of receiving the bribe and 522 giving the bribe, what means 977 reported crimes, what represents higher number than 890 reported crimes the same year of abuse of the position and authority. Bigger number of the reported crimes of receiving and giving the bribe followed as a consequence of a wide activity on undertaking and accomplishing of anti-corruption processes relative to the higher number of actors. This fact should be taken with certain reserve because very often when reporting the crime of giving the bribe, the receiver of the bribe is already known, who is then reported for the crime of receiving the bribe. USKOK has rejected great number of such crimes reported by the citizens caused by their dissatisfaction with the system activity, while the reports given by PNUSKOK as a specialized operational body for prosecution of such crimes are rejected in significantly lower number. Let's look at the graph of corruption offenses in 3 Slavonian counties.

Graph 6: Corruption in Croatia, Osijek-Baranya and Vukovar - Srijem counties

Corruptive Offenses

- Corruptive Offenses in Croatia
- Corruptive Offenses in Osijek-Baranya County
- Corruptive Offenses in Vukovar-Srijem County
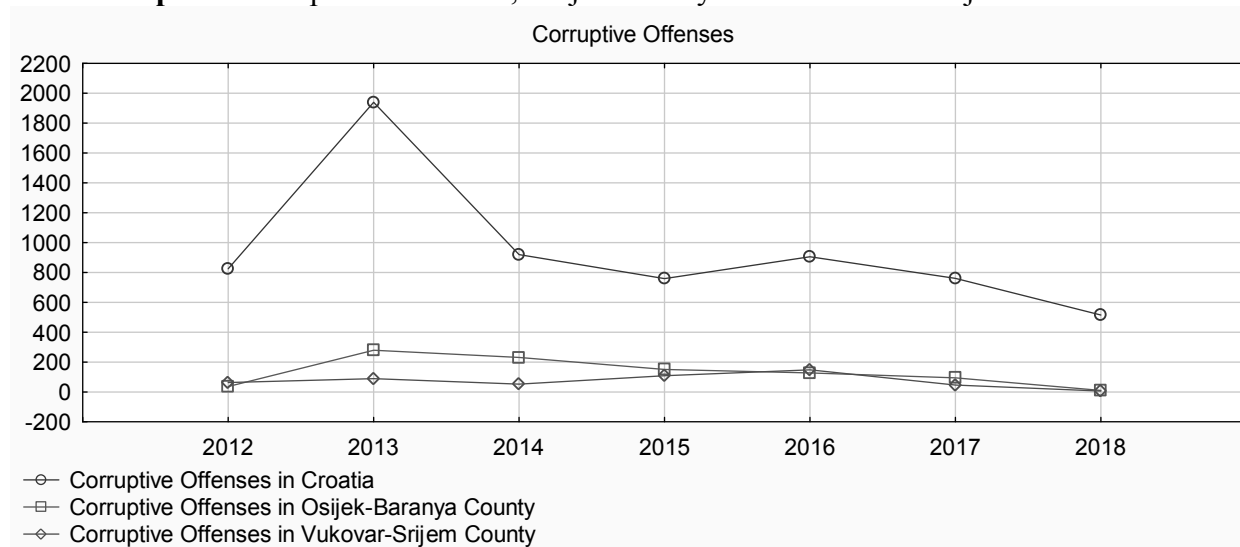
Source: Ministry of Interior

In 2018 in five Slavonian counties there have been reported only 5,6% corruptive crimes, in 2017 have been reported 24,6% and in 2016 have been reported 36,2%. The largest part of the prosecutive activities of the corruptive crimes were in Osijek-Baranya and Vukovar-Srijem Counties. Prosecutive activities of the corruptive crimes in the two afore mentioned counties were especially large in the period of 2014-2016. Namely, in 2014 it amounted 30,76% of all the disclosed corruptive crimes in Croatia, and in 2015 it has increased to 34,26% of all the disclosed corruptive crimes in Croatia, while in 2016 it has been 30,39% of the total in Croatia. When we consider that Osijek-Baranya and Vukovar-Srijem Counties together participate in less than 8% in the total GDP of the Croatia, than such a suppression of the corruption is very significant. At the same time, it means that the corruption suppression in some other counties is by far of weaker intensity. The reason for the increased number of the prosecuting activities lays in the realization of the undertaken anti-corruption actions of the state bodies, where such actions comprised higher number of the corruptive crimes. It is obvious that the larger number of the reported corruptive penalties related to the corruption of the position and authority, whereas the actors of such deeds leave traces in business documents, which facilitates their disclosure. It is important to emphasize that such actions do not comprise only the participants of the so called „street-corruption" but also certain persons that are higher in the social scale. However, it is worrying that in 2018 the number of disclosed corruptive penalties in Osijek-Baranya and Vukovar-Srijem Counties counted only 0,3% of all the disclosed corruptive crimes in Croatia, which is a significant fall down of prosecuting activities of all the services in charge of prosecuting corruptive crimes.

6. Conclusion

Economic consequences of the corruption are becoming a matter of researches of many authors. Transition of the Croatian economy from socialistic economy to modern market economy has opened an opportunity for certain persons to gain significant personal wealth through corruptive actions and to the loss of most of the Croatian citizens. Our research has proven that suppression of the corruption has not only important moral dimension, but that corruption is at the same time, more or less, significantly correlated with certain important macroeconomic indicators. By our research we have confirmed our basic hypothesis that, during 20 years of the more mature phase of the transition in Croatia, lower level of the corruption had relatively strong

positive effect to general government net lending/borrowing, and negative to the unemployment rate, but this effect was weaker. We have also confirmed hypothesis that lower level of the corruption is correlated with lower level of the inflation, where this correlation was significant. The confirmation of our basic hypothesis was particularly obvious in realizing that the lower level of the corruption is most strongly positively correlated to surplus in current account balance, as well as the growth of GDP per capita of the Croatian citizens.

We have established that, during the observed period, the reform of the institutional form and changes of the legislative determinants have brought some positive movements in suppression of the corruption in Croatia, however not nearly enough, which reflects in citizens' perception of the extent of the corruption's distribution. According to the structure of the disclosed corruptive crimes, positive movements in suppression of the corruption in Slavonia are mostly visible in Osijek-Baranya and Vukovar-Srijem Counties. Although a certain improvement in disclosing crimes of giving and receiving bribe has been achieved, it is significantly limited by the difficulties in obtaining of the proper evidence. The suppression of the corruption in Croatia is therefore especially important in order to gain certain macroeconomic goals and improve efficiency of the applied instruments of the economic policy.

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DETERMINANTS OF FIRM PROFITABILITY IN EASTERN CROATIA[1]

ABSTRACT

The aim of this paper is to analyze the determinants of firm profitability in Eastern Croatia (namely County of Virovitica-Podravina, County of Požega-Slavonia, County of Brod-Posavina, County of Osijek-Baranja, and County of Vukovar-Srijem) and to determine if they differ significantly from firm profitability determinants in the rest of Croatia. In the analysis data from the Amadeus database on medium, large, and very large active companies is used, in the biggest four sectors of activity in Eastern Croatia: agriculture (A), manufacturing(C), construction (F), and trade (G). After statistical rejection of lagged profits as determinants of current profits, a fixed effects model using Driscoll-Kraay standard errors is applied, and positive effects of market share (in sectors C and G), labor productivity (C and G), capital productivity (C and G), liquidity (C and G), export intensity (C) and negative effects of insolvency (C and G), indebtedness (G), export intensity (G), capital intensity (C and G), taxes (A and G) and labor costs (C and G) are found. The analysis also shows that when comparing Eastern Croatia to the rest of the country, there is significantly greater positive impact of export intensity (in sectors A and C) and labor productivity (G) in Eastern Croatia. On the other hand, there is significantly greater negative impact of taxes (A and G) and export intensity (G), but also a less negative impact of labor costs (C and G) and insolvency (G) in Eastern Croatia compared to the rest of the country. The analysis revealed no robust statistically significant profitability determinants for the construction sector and also no robust differences in profitability determinants of this sector. These results offer clear directions for assisting development of Eastern Croatian entrepreneurship, both in general and sector-specific.

Key words: *firm profitability, eastern Croatia, fixed effects.*

1. Introduction

The region of Eastern Croatia encompasses five Croatian counties, namely Virovitica-Podravina, Požega-Slavonia, Brod-Posavina, Osijek-Baranja, and Vukovar-Srijem County

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(Tax Administration, 2019). The Eastern Croatia distinguishes itself economically from the other parts of Croatia in many aspects, making it an interesting and important area to study. Namely, in 2018 development index and economic indicators of Eastern Croatia were below the Croatian average. Consequently, it has extremely high risk of poverty (Marošević, 2018). According to the Croatian Bureau of Statistics (2011) poverty risk rate measured using the expenditure method in Croatia equals 17.1%. The lowest rates of poverty risk are recorded in Zagreb (5.9%), and the highest in Brod-Posavina County (33.9%). In all five counties of Eastern Croatia risk of poverty is over 30%. The Croatian government recognizes this problem and states that Eastern Croatia should intensify efforts to fight poverty and social exclusion (Vlada RH, 2020). This high risk of poverty is related to the fact that its regional index of competitiveness is below the Croatian average. Apart from Osijek-Baranja County, all the other Eastern Croatian counties occupy the bottom positions. Vukovar-Srijem County has the lowest quality of the business environment (which includes demographics, health and culture, education, basic infrastructure and the public sector indicators) and Brod-Posavina County the lowest quality of the business sector (which includes investment and entrepreneurial dynamics, entrepreneurship development and economic results) (Slipčević, Dikonić, Lakoš, 2019). Eastern Croatia is also characterized by the lowest level of entrepreneurial activity and the lowest motivational index, which includes perception of opportunities and intentions of launching a business venture (Slipčević, Dikonić, Lakoš, 2019). Kovačević, Kovačević and Kršul (2014) find that the entrepreneurs from that region generate the lowest revenue and profit of all Croatian regions, and with the exception of Osijek-Baranja County, other counties of Eastern Croatia are entrepreneurially underdeveloped. Finally, this area is characterized by the lowest level of political accountability and the lowest budget outcomes (Ott, Mačkić, Prijaković, 2019).

Having in mind this entrepreneurial underdevelopment of Eastern Croatia, questions arise – what are the determinants of profitability of Eastern Croatian companies and do they differ significantly from the profitability determinants in the rest of Croatia? These are the questions that this paper aims to answer.

The determinants of Croatian companies' profitability have been studied so far for the small and medium sized companies (SMEs) (Harc, 2014), for the companies listed at the Zagreb Stock Exchange (Pervan, Pervan and Todorić, 2012) and for the companies of the different sectors of activity: manufacturing sector (Škuflić, Mlinarić and Družić (2016), Anić, Rajh and Teodorović (2009), Pervan and Višić (2012), Pervan, Pervan and Ćurak (2019)), food and beverage manufacturing sector (Pervan, Pervan andĆurak (2017), Pervan and Mlikota (2013), Muminović and AljinovićBarać (2015)), construction sector (Škuflić, Mlinarić and Družić, 2018), insurance sector (PavićKramarić, Miletić and Pavić, 2017), banking sector (Pervan, Pelivan and Arnerić, 2015), hotel companies (Dimitrić, Tomas Živković and ArbulaBlechich (2019), Škuflić and Mlinarić (2015)) and software companies (Korent and Orsag, 2018). However, the analysis of the regional specifics of firm profitability in Croatia has been scarce and only partial. Letinić, Budimir and Župan (2019) analyze the correlation between profitability and the tax breaks in the area of special national status from 2005 to 2013 and find a positive relationship. Kovačević, Kovačević and Kršul (2014) analyze profitability in Eastern Croatia and other Croatian regions using correlation coefficients and find negative correlation between profitability and share of total debt in total assets, share of short-term debt in total assets and the share of debt in capital structure. This paper, on the other hand, conducts a comprehensive empirical panel analysis of the profitability determinants of Eastern Croatian companies from 2008 to 2017, and statistically tests the hypothesis that there is no difference between these profitability determinants in Eastern Croatia compared to the rest of the country. Additionally, the analysis is conducted for the four most important sectors of activity in Eastern Croatia, namely agriculture (A), manufacturing (C), construction (F), and trade (G). The results

of this comprehensive analysis bridge the gap in the existing empirical literature and offer insights for the economic policy.

The paper is organized as follows. First, a brief theoretical background and explanation of the most commonly assumed determinants of firm profitability is provided. Next, an explanation is provided of the data and methodology used in the paper. This is followed by the empirical analysis and the results. The last section concludes.

2. Theoretical background and variables

Identifying the determinants of firm profitability is an important theme in economics, strategic management, accounting and finance research and their approaches to the subject differ. For example, the industrial economics focuses on industry characteristics that determine profitability, such as concentration, economies of scale and entry and exit barriers (Bain, 1956; Slater and Olson, 2002). Within it, the persistence of profit approach focuses on the time-series behavior of profitability. The strategic management approach, on the other hand, views internal resources specific to the firm as determinants of profitability (Teece, 1981; Barney, 1991, 2001). Resource-based view states that organizational structures and management practices are the main determinants. Internal resources, which can be tangible (financial and physical factors of production) or intangible (technology, reputation, architecture), reflect the firm's core and distinctive capabilities (Prahalad and Hamel, 1990). The accounting and finance approach represents a separate but related strand of research concerning the usefulness of the random walk model as a descriptor of time series movements in profitability. Little (1962), Little and Rayner (1966), Ball and Watts (1972), Watts and Leftwich (1977), Callen et al. (1993) and Chan et al. (2003) present evidence in support of the random walk hypothesis. Other studies (Lev(1983), Penman (1991), Lipe and Kormendi (1994), Callen(2001)), which analyze profitability measures such as return on equity (ROE), assets or sales, report findings similar to those of the persistence of profit literature in industrial economics: there is serial correlation in profit rates, which tend to converge towards firm-specific long run average values (Goddard, Tavakoli and Wilson, 2005).

Škuflić and Mlinarić (2015) divide all of the firm profitability determinants into global (such as global trends on commodity, input and output markets), national (e.g. the economic growth, domestic demand, education, labor and financial market characteristics, tax system, infrastructure and institutions, exchange rate, etc.), industry-level (e.g. industry size, market concentration, barriers to entry, strategic interconnectedness, mergers and acquisitions, etc.) and firm-level determinants (size, productivity, previous year's profits, liquidity, solvency, leverage, research, investment, etc.). This classification regarding industry-level and firm-level determinants is followed throughout this paper.

3. Data and methodology

3.1. Data

In the empirical analysis the data from Amadeus database on 9108 medium, large, and very large active companies is used, in the biggest four sectors of activity in Croatia: agriculture (A), manufacturing(C), construction (F), and trade (G). Amadeus classifies companies based on size by the following criteria. A firm is considered to be "very large" if it satisfies one of the following criteria: operating revenue above 100 mil EUR, total assets above 200 mil EUR, or more than 1000 employees. "Large" firms criteria are: operating revenue above 10 mil EUR, total assets above 20 mil EUR or more than 150 employees. And finally, "medium" firms' criteria are: operating revenue above 1 mil EUR, total assets above 2 mil EUR, or more than 15

employees. The period of analysis is from 2008 to 2017. The variables used in the analysis were constructed from basic variables available in the Amadeus database, and are presented in Table 1 together with the calculation method used to obtain them. The last column shows the papers that used the listed variables in their firm profitability analysis on Croatian data. Independent variables from Table 1 are additionally modified by multiplying them with a dummy variable which takes the value 1 if the firm operates in East Croatia, and 0 otherwise. Those variables are listed with a suffix „_east".

Table 1: Description of variables

Variable name	Symbol	Calculation method/source	Croatian literature
EBITDA margin	EBITDA_m	(EBITDA/turnover)*100	Pervan, Pervan and Ćurak (2017), Pervan and Višić (2012)
Profit margin	Profit_m	(Profit/turnover)*100;	Pervan and Višić (2012)
Return on assets	ROA	Net profit before tax plus interest (EBIT)/total assets;	Anić, Rajh and Teodorović (2009), Korent and Orsag (2018), Muminović and AljinovićBarać (2015), PavićKramarić, Miletić and Pavić (2017), Pervan, Pelivan and Arnerić, (2015), Pervan, Pervan and Ćurak (2019), Pervan, Pervan and Todorić (2012), Pervan and Višić (2012),
Market share	market_share2ln	Natural logarithm of company's market power defined as the percentage of its turnoverin totalindustry turnover;	Korent and Orsag (2018)
Labor productivity	productivity1ln	Natural logarithm of the ratio of turnover to employment;	Dimitrić, Tomas Živković and ArbulaBlechich (2019)
Capital productivity	c_productivityln	Natural logarithm of the ratio of turnover to capital;	-
Liquidity	liquidityln	Natural logarithm of [(current assets-stock)/current liabilities];	Pervan, Pervan and Ćurak (2017)
Solvency	debt_ratio100	Total debt/total assets;	Anić, Rajh and Teodorović (2009), Pervan and Višić (2012)
Indebtedness	debt_m2	Debt/EBITDA;	Škuflić, Mlinarić and Družić (2016)
Growth of company	firm_growth	Annual changes in revenue - operating turnover percentage change;	Korent and Orsag (2018)
Export intensity	export_intensity2ln	Ratio of export to sales;	Anić, Rajh and Teodorović (2009)
Capital intensity	capital_intensity1ln	Fixed assets per employee;	Anić, Rajh and Teodorović (2009)
Taxes	e_tax1	Tax/Profit;	-
Labor cost	labor_costln	(Employees cost/turnover)*100;	Pervan, Pervan and Ćurak (2019)

Source: Authors

EBITDA margin, profit margin and return on assets (ROA) are in the analysis used as dependent variables, i.e. indicators of firm profitability. The rest of the variables from Table 1 are explanatory variables, assumed to impact firm profitability.

Most of the independent variables are self-explanatory, however in the case of "market share" two problems arose which warrant further elaboration. First, it is necessary to define what is meant by "industry". Here, the approach of Goddard, Tavakoli and Wilson (2005) is followed who define an industry by its two-digit NACE rev.2 classification. The second problem is more nuanced, and has to do with data quality. The Amadeus database is constructed in such a way so that every firm in the database in our 10year timeframe (2008-2017) is represented in each year regardless of how many years it was active. In the case that the firm did not yet exist (or closed) during this period its values are reported as missing. In addition, there are some gaps in the database, where key variables (such as turnover or number of employees) are not reported in certain years (even in some cases for very large firms), and are therefore also reported as missing. These two facts constitute a problem for market share calculations, since it becomes a non-trivial problem to determine whether a firm in a given year has not yet begun/ceased to exist, or alternatively is simply missing data for that year. By taking samples of the data it was determined that cases exist where very large firms have instances of missing data, which result in extreme variations of market share values in corresponding industries. To address this problem an additional turnover variable was created in which all missing data was filled with the closest available values, and then used to calculate market share values. This came at a cost however, in the form of ignoring the fact that some firms might not have existed or closed down during the analyzed period. It was felt that this is the "lesser of the two evils", since market share values are less likely to be significantly affected by firm entry and exit (which in a ten year timeframe is predominantly small firm behavior) than by missing values of key market players in certain years.

As far as the expected coefficient signs of independent variables are concerned, they are relatively straightforward. Market share is expected to be positively correlated with firm profitability, since firms with market power tend to have anti-competitive strategies that enable them to earn abnormal profit. Alternatively, firms with a large market share may have acquired it by being more innovative or efficient in the past (Goddard, Tavakoli and Wilson, 2005). Firm growth and market share can be considered to be somewhat linked, as both measure a firms "staying power", i.e. the degree to which a firm has adapted to the market successfully. Additionally, the size of market share is expected to be especially relevant in this case, since three out of the four analyzed industries (agriculture, manufacturing, and construction) traditionally exhibit strong economies of scale.

Labor and capital productivity constitute productivity measures, both of which are expected to have a positive impact on profitability. Similar measures include capital intensity, which under the assumption that more capital per worker implies higher worker productivity is also expected to have a positive impact on our dependent variables. In some sense it can be argued that the "labor cost" variable constitutes the opposite of labor productivity, measuring how much is spent on labor for every additional unit of turnover, which means the expected coefficient sign is negative.

Solvency and indebtedness are closely tied together as measures of how much the firm is saddled with debt, the amount of debt usually being negatively correlated with profitability. On the other hand, liquidity captures a similar concept but the other way around: the ratio of assets to liabilities which is expected to have a positive impact on profitability the higher it goes, as a proxy measure of less indebtedness. Namely, liquidity indicates the speed at which a firm can react to sudden changes in its environment and holding a high proportion of assets in liquid form makes it less exposed to risk. However, a too high proportion of assets in liquid form may constrain its ability to exploit profitable long-term investment opportunities (Goddard, Tavakoli and Wilson, 2005).

The "etax1" variable is designed to capture the amount of tax burden in the economy, which is expected to have a negative impact on profitability due to overly burdened and complex Croatian tax system.

The final independent variable is export intensity. Generally, some evidence suggests that export intensity is an important driver of firms' performance since it may help firms improve the utilization of production capacity, develop superior management capabilities and enhance innovation in products and processes (Anić, Rajh and Teodorović, 2009),

3.2. Methodology

As the data consists of few time periods (10 years, from 2008 to 2017) and many individuals (9108 firms), it is a short panel. Considering that most authors (Goddard, Tavakoli and Wilson (2005), Škuflić, Mlinarić and Družić (2016), Škuflić, Mlinarić and Družić (2018), Pervan, Pervan and Todorić (2012), Pervan, Pervan, Ćurak (2017), Škuflić and Mlinarić (2015), Pervan, Pervan and Ćurak (2019), Dimitrić, Tomas Živković and Arbula Blechich (2019), etc.) have found dynamic relationship between firm profitability measures and their determinants, a dynamic analysis is conducted in this paper. Arellano–Bond (Arellano and Bond 1991) and Arellano–Bover/Blundell–Bond (Arellano and Bover 1995; Blundell and Bond 1998) dynamic panel estimators are appropriate for situations with few time periods and many individuals; a linear functional relationship; dynamic dependent variable; independent variables that are not strictly exogenous; fixed individual effects; and heteroskedasticity and autocorrelation within individuals but not across them (Roodman, 2009). Since the Sargan statistic is not robust to heteroskedasticity or autocorrelation, Hansen (1982) J statistic is used, which is the minimized value of the two-step generalized method of moments criterion function, and is robust. Hansen test did not confirm the validity of instruments used in the analysis[2]. Therefore, a static panel model was applied in this paper.

In microeconometric analysis of panel data there are two basic models, fixed effects (FE), and random effects (RE) (Cameron and Trivedi, 2010). The decision between FE and RE in this paper is based upon the results of the Hausman test and modified Hausman test (Hausman, 1978; Hoechle, 2007). The results of these tests confirm the use of FE model (which corresponds to some empirical literature on firm profitability in Croatia such as Pervan and Višić (2012)).

The FE model equation (1) is shown below:

$$Y_{it} = \beta_k X_{it} + \alpha_i + u_{it} \tag{1}$$

where α_i is the constant term for every group, Y_{it} the vector of dependent variables in time t, and group i, X_{it} vector of independent variables, and u_{it} is the error term. Driscoll and Kraay (1998) standard errors are used since they are robust to general forms of cross-sectional dependence, but also autocorrelation and heteroskedasticity.

4. Empirical analysis

A unit root test is conducted for all variables in the analysis on a balanced panel subsample and indicated stationarity of all variables. On the grounds of the (modified) Hausman test results, it

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[2]Results available on request.

was decided to conduct a panel model with fixed effects.[3] The analysis is divided into two parts. First, the determinants of firm profitability in Eastern Croatia are analyzed on the subsample of only Eastern Croatian firms. Second, the hypothesis that the profitability determinants in Eastern Croatia do not differ significantly from the profitability determinants in the rest of the Croatia is tested. This second part of the analysis is conducted on the full sample of all Croatian firms in the four analyzed sectors.

4.1. Profitability determinants in Eastern Croatia

Firm profitability determinants in Eastern Croatia are first analyzed for the four biggest sectors in Eastern Croatia jointly. Next, specific sectors are analyzed individually, namely sectors A (agriculture), C (manufacturing), G (construction), and F (trade). The relationships between profitability measures EBITDA margin (Model 1), ROA (Model 2), and profit margin (Model 3) and previously stated independent variables are shown in Tables2 –6. Table 2 shows the models 1 – 3 for all four sectors together; Table 3 depicts the results for sector A; Table 4 for sector C; Table 5 sector F; and Table 6 sector G. The analysis of three profitability indicators offers an insight into the robustness of the obtained results.

The joint results for the firms in the four biggest sectors of activity in Eastern Croatia show that market share, labor and capital productivity display robustly positive and labor cost robustly negative influence on profitability (Table 2). Firm growth appears also with a robustly negative coefficient although the coefficient value is negligible. Additionally, for the two out of three profitability measures insolvency and higher capital intensity appear to exert negative impact on firm profitability.

Table 2: Determinants of firm profitability in Eastern Croatia (all sectors)

	1	2	3
market_share2ln	**3.0999***	**0.0073***	**4.5844***
	(0.0001)	**(0.0871)**	**(0.0001)**
productivity1ln	**5.1323***	**0.0533***	**5.5817**
	(0.0000)	**(0.0000)**	**(0.0116)**
c_productivityln	**0.3746***	**0.0103***	**1.0778***
	(0.0818)	**(0.0000)**	**(0.0000)**
liquidityln	**2.0261***	**0.0321***	**3.1342***
	(0.0004)	**(0.0000)**	**(0.0000)**
debt_ratio100	0.0025	**-0.0006***	**-0.0515***
	(0.7560)	**(0.0002)**	**(0.0000)**
debt_m2	0.0040	**-0.0002***	**0.0740***
	(0.7494)	**(0.0000)**	**(0.0000)**
firm_growth	**-0.0000***	**-0.0000***	**-0.0000***
	(0.0000)	**(0.0098)**	**(0.0000)**
export_intensity2ln	0.1005	0.0009	0.2635
	(0.4518)	(0.1396)	(0.1251)
capital_intensity1ln	0.1715	**-0.0171***	**-0.6377***
	(0.1998)	**(0.0000)**	**(0.0006)**
e_tax1	**-0.1408***	-0.0007	**-0.2785**
	(0.0555)	(0.4385)	**(0.0107)**

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[3]All the results are available from authors upon request.

	1	2	3
labor_costln	**-2.4393***	**-0.0300***	**-4.4421**
	(0.0654)	**(0.0001)**	**(0.0301)**
_cons	-13.4941***	-0.1816***	-22.5348***
	(0.0004)	(0.0000)	(0.0013)
N	2430	2430	2430
R-sq	0.1337	0.1637	0.1857

Source: Authors' calculation
*Note: *, **, *** denote 10%, 5% and 1% significance respectively.*

Table 3 analyses sector A in more detail. The results show that the only fairly robust determinant of profitability in agricultural firms in Eastern Croatia are taxes with their negative impact, as anticipated. Liquidity, firm growth, export intensity and capital intensity might have a positive impact on profitability and insolvency negative, but these results are not robust.

Table 3: Determinants of firm profitability in Eastern Croatia (sector A)

	1A	2A	3A
market_share2ln	-2.1325	0.0006	-2.7998
	(0.1386)	(0.9421)	(0.2256)
productivity1ln	-1.5311	-0.0185	-0.5745
	(0.1201)	(0.2109)	(0.8513)
c_productivityln	0.8580	0.0044	0.3911
	(0.3803)	(0.5313)	(0.6509)
liquidityln	0.9713	**0.0162****	0.1273
	(0.4150)	**(0.0329)**	(0.9199)
debt_ratio100	-0.0777	**-0.0008****	-0.0070
	(0.1426)	**(0.0480)**	(0.9014)
debt_m2	0.0003	0.0000	-0.0573
	(0.9839)	(0.7955)	(0.1710)
firm_growth	0.0058	**0.0001****	0.0025
	(0.2791)	**(0.0139)**	(0.5798)
export_intensity2ln	0.1895	0.0028	**1.1895***
	(0.5764)	(0.1354)	**(0.0618)**
capital_intensity1ln	**5.9624***	-0.0047	1.6377
	(0.0000)	(0.6840)	(0.1759)
e_tax1	**-0.1928***	-0.0008	**-0.4545***
	(0.0002)	(0.2874)	**(0.0001)**
labor_costln	-3.6953	-0.0239	-5.8180
	(0.5166)	(0.4270)	(0.4482)
_cons	-16.6826	0.1183	-14.8863
	(0.3949)	(0.2552)	(0.4229)
N	326	326	326
R-sq	0.0776	0.0993	0.0691

Source: Authors' calculation
*Note: *, **, *** denote 10%, 5% and 1% significance respectively.*

Table 4 displays results for the manufacturing sector. There appears to be a robustly positive impact of market share, labor and capital productivity, liquidity and export intensity on firm profitability in this sector. Insolvency, capital intensity and labor cost show robustly negative impact on profitability of manufacturing firms.

Table 4: Determinants of firm profitability in Eastern Croatia (sector C)

	1C	2C	3C
market_share2ln	**4.2815***	0.0188	**6.6555***
	(0.0004)	(0.1190)	**(0.0000)**
productivity1ln	**7.3835***	**0.0503***	**7.7040**
	(0.0017)	**(0.0022)**	**(0.0204)**
c_productivityln	**0.6764**	**0.0140***	**1.5134***
	(0.0168)	**(0.0000)**	**(0.0000)**
liquidityln	**2.0248**	**0.0295***	**3.6262***
	(0.0293)	**(0.0000)**	**(0.0010)**
debt_ratio100	0.0133	**-0.0005***	**-0.0456***
	(0.1408)	**(0.0005)**	**(0.0546)**
debt_m2	0.0459	**-0.0004***	0.0840
	(0.3309)	**(0.0000)**	(0.2641)
firm_growth	**-0.0000***	**-0.0000**	**-0.0000***
	(0.0000)	**(0.0130)**	**(0.0000)**
export_intensity2ln	**0.3974**	**0.0059***	0.2642
	(0.0121)	**(0.0093)**	(0.2007)
capital_intensity1ln	0.0109	**-0.0192***	**-1.1352***
	(0.9471)	**(0.0000)**	**(0.0000)**
e_tax1	0.2112	-0.0006	**0.7366***
	(0.3546)	(0.6213)	**(0.0614)**
labor_costln	-2.1624	**-0.0280***	**-4.9179***
	(0.2558)	**(0.0623)**	**(0.0500)**
_cons	-20.1868***	-0.1289**	-29.7937***
	(0.0051)	(0.0112)	(0.0052)
N	1473	1473	1473
R-sq	0.1898	0.1852	0.2117

Source: Authors' calculation
*Note: *, **, *** denote 10%, 5% and 1% significance respectively.*

Table 5 displays the analysis of the construction sector. It shows that there is no robust firm profitability determinant in this sector. Individual models indicate that labor productivity, firm growth, export intensity but also taxes might have positive impact and insolvency and labor costs negative impact on firm profitability in the construction sector of Eastern Croatia, but these results are not robust.

Table 5: Determinants of firm profitability in Eastern Croatia (sector F)

	1F	2F	3F
market_share2ln	-4.7995	-0.1224	0.6373
	(0.4693)	(0.1588)	(0.8644)
productivity1ln	34.9538	**0.4348***	2.7995

	1F	2F	3F
	(0.1216)	**(0.0849)**	(0.7931)
c_productivityln	-1.1567	0.0097	-0.1796
	(0.2368)	(0.5012)	(0.8120)
liquidityln	2.9677	0.0607	3.3106
	(0.4544)	(0.4093)	(0.4436)
debt_ratio100	-0.1655	-0.0014	**-0.2133***
	(0.2534)	(0.4239)	**(0.0001)**
debt_m2	**0.0447***	-0.0002	**-0.0667***
	(0.0071)	(0.4633)	**(0.0014)**
firm_growth	0.0049	**0.0001***	0.0008
	(0.1203)	**(0.0987)**	(0.8351)
export_intensity2ln	**0.9841****	-0.0119	0.2430
	(0.0496)	(0.1495)	(0.2689)
capital_intensity1ln	-2.5819	-0.0326	0.8690
	(0.2500)	(0.3385)	(0.4826)
e_tax1	-1.1172	**0.1012***	1.2121
	(0.7853)	**(0.0508)**	(0.6306)
labor_costln	5.1394	-0.0450	**-11.8867****
	(0.6537)	(0.6940)	**(0.0168)**
_cons	-113.4573	-1.9457**	-22.9324
	(0.1351)	(0.0304)	(0.5545)
N	103	103	103
R-sq	0.4909	0.4465	0.3860

Source: Authors' calculation

*Note: *, **, *** denote 10%, 5% and 1% significance respectively.*

Table 6 displays the results for the trade sector. It shows that market share, labor and capital productivity and liquidity have a robust positive impact on firm profitability in this sector, while insolvency, indebtedness, export intensity, capital intensity, taxes and labor costs represent negative determinants of firm profitability in East Croatia's trade sector.

Table 6: Determinants of firm profitability in Eastern Croatia (sector G)

	1G	2G	3G
market_share2ln	**2.1704****	-0.0041	**3.0216***
	(0.0103)	(0.8323)	**(0.0000)**
productivity1ln	1.3739	**0.0771****	**2.0037****
	(0.2047)	**(0.0240)**	**(0.0500)**
c_productivityln	0.2252	**0.0080***	**0.9738****
	(0.3240)	**(0.0707)**	**(0.0250)**
liquidityln	**1.7136***	**0.0418***	**1.7497***
	(0.0043)	**(0.0000)**	**(0.0038)**
debt_ratio100	0.0074	**-0.0007***	**-0.0381***
	(0.5198)	**(0.0013)**	**(0.0008)**
debt_m2	0.0026	**-0.0001***	**0.1119***

	1G	2G	3G
	(0.5972)	**(0.0000)**	**(0.0000)**
firm_growth	-0.0000	-0.0000	0.0001
	(0.5771)	(0.1603)	(0.3069)
export_intensity2ln	**-0.5616***	**-0.0044**	**-0.3548**
	(0.0001)	**(0.0483)**	**(0.0159)**
capital_intensity1ln	-0.1532	**-0.0164***	**-0.6107**
	(0.6363)	**(0.0073)**	**(0.0316)**
e_tax1	**-1.5463***	-0.0097	**-1.0369**
	(0.0007)	(0.3306)	**(0.0374)**
labor_costln	-0.7291	**-0.0164***	**-1.3900***
	(0.3237)	**(0.0674)**	**(0.0657)**
_cons	5.2975	-0.3631*	-1.2108
	(0.4590)	(0.0667)	(0.8550)
N	520	520	520
R-sq	0.1366	0.2556	0.6570

Source: Authors' calculation
*Note: *, **, *** denote 10%, 5% and 1% significance respectively.*

4.2. Profitability determinants in Eastern Croatia compared to the rest of Croatia

This chapter contains the models analyzed on the complete sample of 9108 Croatian firms in sectors A, C, F, and G (Tables 7 - 11). The models contain, in addition to previously employed independent variables, the variables derived by their multiplication with the dummy variable for Eastern Croatian companies. This enables testing of the null hypothesis of no difference between the impact of specific determinant on profitability in Eastern Croatia compared to the rest of the country. Statistically significant coefficients next to the variables with the extension "_east" in their names, signify that Eastern Croatia differs from the rest of the country regarding the impact that that specific determinant has on firm profitability.

By inspecting the coefficients and their significance of the variables with the extension "_east" in their names in Table 7 it is evident that export intensity has a more positive, i.e. labor cost less negative impact on profitability in Eastern Croatia compared to the rest of the country. Taxes on the other hand have more pronounced negative impact on profitability in these four sectors of activity in Eastern Croatia.

Table 7: Profitability determinants in Eastern Croatia compared to the rest of Croatia (all sectors)

	1	2	3
market_share2ln	**10.6003**	**0.0251***	**23.2544***
	(0.0498)	**(0.0000)**	**(0.0542)**
productivity1ln	**5.9360**	**0.0087**	**12.2957***
	(0.0433)	**(0.0278)**	**(0.0726)**
c_productivityln	**0.6966***	**0.0088***	**1.1727***
	(0.0000)	**(0.0000)**	**(0.0000)**
Liquidityln	0.6689	**0.0358***	0.9746
	(0.3095)	**(0.0000)**	(0.6387)
debt_ratio100	0.0496	**-0.0011***	-0.0077

	1	2	3
	(0.2443)	**(0.0000)**	(0.9513)
debt_m2	**0.0062***	0.0000	0.0321
	(0.0100)	(0.9364)	(0.1832)
firm_growth	0.0000	-0.0000	0.0000
	(0.6419)	(0.2177)	(0.3583)
export_intensity2ln	**-1.1935***	**0.0016***	**-2.4689***
	(0.0870)	**(0.0016)**	**(0.0991)**
capital_intensity1ln	-1.6320	**-0.0104***	-3.8437
	(0.1968)	**(0.0000)**	(0.1542)
e_tax1	**0.0128***	**0.0001***	**0.0180***
	(0.0064)	**(0.0000)**	**(0.0789)**
labor_costln	**-24.0231***	**-0.0887***	**-43.9712***
	(0.0034)	**(0.0000)**	**(0.0156)**
market_share2ln_east	-7.5004	**-0.0178***	-18.6700
	(0.1752)	**(0.0007)**	(0.1324)
productivity1ln_east	-0.8037	**0.0446***	-6.7140
	(0.8287)	**(0.0000)**	(0.4247)
c_productivityln_east	**-0.3221***	0.0015	-0.0949
	(0.0530)	(0.2058)	(0.7762)
liquidityln_east	**1.3572***	-0.0037	2.1597
	(0.0911)	(0.2189)	(0.2732)
debt_ratio100_east	-0.0471	**0.0005***	-0.0438
	(0.3108)	**(0.0074)**	(0.7305)
debt_m2_east	-0.0022	**-0.0002***	0.0419
	(0.8719)	**(0.0000)**	(0.2776)
firm_growth_east	**-0.0000***	**-0.0000**	**-0.0000***
	(0.0000)	**(0.0102)**	**(0.0000)**
export_intensity2ln_east	**1.2940**	-0.0007	**2.7324***
	(0.0359)	(0.3978)	**(0.0578)**
capital_intensity1ln_east	1.8035	**-0.0067***	3.2060
	(0.1407)	**(0.0535)**	(0.2552)
e_tax1_east	**-0.1536**	-0.0008	**-0.2965***
	(0.0402)	(0.3706)	**(0.0043)**
labor_costln_east	**21.5838**	**0.0586***	**39.5291***
	(0.0116)	**(0.0000)**	**(0.0262)**
_cons	-45.8529***	-0.0902***	-92.2781**
	(0.0081)	(0.0003)	(0.0189)
N	25373	25373	25373
R-sq	0.0244	0.1271	0.2066

Source: Authors' calculation

*Note: *, **, *** denote 10%, 5% and 1% significance respectively.*

The analysis of the agricultural sector shows that export intensity has a robustly and significantly greater contribution to firm profitability in Eastern Croatia compared to the rest of the country. Market share, labor productivity and taxes on the other hand display robustly less

positive i.e. more negative impact on agricultural firm profitability in this region compared to the rest of the Croatia (Table 8).

Table 8: Profitability determinants in Eastern Croatia compared to the rest of Croatia (sector A)

	1A	2A	3A
market_share2ln	**4.2092***	**0.0268***	**6.5926***
	(0.0000)	**(0.0002)**	**(0.0008)**
productivity1ln	**9.6585***	0.0213	**9.9796***
	(0.0614)	(0.3217)	**(0.0890)**
c_productivityln	**-1.0741***	0.0027	**-1.0209***
	(0.0001)	(0.1002)	**(0.0086)**
Liquidityln	0.2569	**0.0272***	**3.4953***
	(0.8744)	**(0.0004)**	**(0.0870)**
debt_ratio100	-0.0135	**-0.0010***	0.0038
	(0.8737)	**(0.0055)**	(0.9663)
debt_m2	0.0026	0.0000	-0.0025
	(0.4915)	(0.4641)	(0.5667)
firm_growth	**0.0000***	**0.0000***	**0.0000***
	(0.0017)	**(0.0080)**	**(0.0099)**
export_intensity2ln	**-1.5461***	**-0.0123***	**-1.7503***
	(0.0027)	**(0.0096)**	**(0.0052)**
capital_intensity1ln	-0.3204	-0.0011	-1.2313
	(0.7903)	(0.8781)	(0.4375)
e_tax1	**0.7707***	-0.0016	**1.0368****
	(0.0007)	(0.3002)	**(0.0119)**
labor_costln	-0.8299	-0.0233	-3.9867
	(0.8577)	(0.4329)	(0.3776)
market_share2ln_east	**-6.3416***	**-0.0261***	**-9.3924****
	(0.0003)	**(0.0589)**	**(0.0124)**
productivity1ln_east	**-11.1895****	**-0.0398***	-10.5541
	(0.0308)	**(0.0559)**	(0.1384)
c_productivityln_east	**1.9321***	0.0017	1.4120
	(0.0792)	(0.8116)	(0.1562)
liquidityln_east	0.7144	-0.0111	**-3.3680***
	(0.6365)	(0.2047)	**(0.0585)**
debt_ratio100_east	-0.0642	0.0002	-0.0109
	(0.2506)	(0.6286)	(0.9144)
debt_m2_east	-0.0023	0.0000	-0.0548
	(0.8848)	(0.9220)	(0.1618)
firm_growth_east	0.0058	**0.0001****	0.0025
	(0.2768)	**(0.0124)**	(0.5789)
export_intensity2ln_east	**1.7356***	**0.0151****	**2.9398***
	(0.0045)	**(0.0162)**	**(0.0012)**
capital_intensity1ln_east	**6.2829***	-0.0035	2.8690

	1A	2A	3A
	(0.0025)	(0.8104)	(0.1774)
e_tax1_east	**-0.9636***	0.0008	**-1.4913***
	(0.0001)	(0.7180)	**(0.0020)**
labor_costln_east	-2.8654	-0.0005	-1.8314
	(0.7738)	(0.9924)	(0.8759)
_cons	**-26.0664***	-0.0106	**-33.9256***
	(0.0562)	(0.8439)	**(0.0153)**
N	886	886	886
R-sq	0.1063	0.1326	0.1496

Source: Authors' calculation
*Note: *, **, *** denote 10%, 5% and 1% significance respectively.*

Table 9 shows that in manufacturing sector of Eastern Croatia the profitability determinants do not differ (robustly) as much as in other sectors. It appears that the export intensity has a more beneficial effect, and labor cost less detrimental effect on manufacturing firm profitability in Eastern Croatia compared to the rest of the country.

Table 9: Profitability determinants in Eastern Croatia compared to the rest of Croatia (sector C)

	1C	2C	3C
market_share2ln	**21.7871***	**0.0287***	**48.6525***
	(0.0698)	**(0.0000)**	**(0.0697)**
productivity1ln	**14.9337***	**0.0160***	**35.5083***
	(0.0490)	**(0.0203)**	**(0.0533)**
c_productivityln	**1.2434***	**0.0113***	**1.9974***
	(0.0000)	**(0.0000)**	**(0.0000)**
Liquidityln	-1.8640	**0.0377***	-5.8965
	(0.4780)	**(0.0000)**	(0.2861)
debt_ratio100	0.1596	**-0.0011***	0.3328
	(0.1474)	**(0.0000)**	(0.2264)
debt_m2	**0.0195***	-0.0000	**0.0506***
	(0.0206)	(0.7604)	**(0.0140)**
firm_growth	-0.0000	**0.0000***	-0.0000
	(0.6637)	**(0.0027)**	(0.7336)
export_intensity2ln	-2.3246	**0.0041***	-5.4454
	(0.1332)	**(0.0000)**	(0.1014)
capital_intensity1ln	-4.1446	**-0.0134***	-11.4461
	(0.2063)	**(0.0000)**	(0.1059)
e_tax1	**0.2053***	-0.0002	**0.3616***
	(0.0000)	(0.2719)	**(0.0010)**
labor_costln	**-41.4162***	**-0.1017***	**-78.0980***
	(0.0165)	**(0.0000)**	**(0.0410)**
market_share2ln_east	-17.5056	-0.0100	-41.9970
	(0.1637)	(0.4896)	(0.1243)
productivity1ln_east	-7.5502	**0.0343***	-27.8044

	1C	2C	3C
	(0.4017)	**(0.0809)**	(0.1672)
c_productivityln_east	**-0.5670****	**0.0027****	-0.4840
	(0.0431)	**(0.0381)**	(0.2537)
liquidityln_east	3.8888	-0.0082	**9.5227***
	(0.1179)	(0.1298)	**(0.0747)**
debt_ratio100_east	-0.1463	**0.0005*****	-0.3784
	(0.2029)	**(0.0014)**	(0.1553)
debt_m2_east	0.0264	**-0.0004*****	0.0334
	(0.5711)	**(0.0000)**	(0.6605)
firm_growth_east	**-0.0000*****	**-0.0000*****	**-0.0000****
	(0.0000)	**(0.0003)**	**(0.0185)**
export_intensity2ln_east	**2.7220***	0.0018	**5.7096***
	(0.0785)	(0.3829)	**(0.0952)**
capital_intensity1ln_east	4.1554	-0.0059	10.3109
	(0.2037)	(0.2044)	(0.1549)
e_tax1_east	0.0059	-0.0003	0.3750
	(0.9798)	(0.7451)	(0.4049)
labor_costln_east	**39.2538****	**0.0737*****	**73.1801***
	(0.0232)	**(0.0000)**	**(0.0565)**
_cons	**-96.4195****	**-0.1215*****	**-208.1295****
	(0.0212)	**(0.0006)**	**(0.0349)**
N	12343	12343	12343
R-sq	0.0398	0.1316	0.0328

Source: Authors' calculation
Note: *, **, *** denote 10%, 5% and 1% significance respectively.

The analysis of construction sector is presented in Table 10. It shows no robust differences in profitability determinants of this sector in Eastern Croatia compared to the rest of the country.

Table 10: Profitability determinants in Eastern Croatia compared to the rest of Croatia (sector F)

	1F	2F	3F
market_share2ln	**1.1705****	-0.0002	**6.0050****
	(0.0135)	(0.9658)	**(0.0148)**
productivity1ln	2.8579	-0.0044	**10.2286****
	(0.1677)	(0.7149)	**(0.0376)**
c_productivityln	0.4582	0.0060	0.2608
	(0.1478)	(0.1422)	(0.5045)
Liquidityln	**2.9184***	**0.0567*****	2.7758
	(0.0521)	**(0.0000)**	(0.2725)
debt_ratio100	**-0.0595***	**-0.0019*****	**-0.1173*****
	(0.0864)	**(0.0000)**	**(0.0000)**
debt_m2	**-0.0555****	**-0.0001***	**-0.0877***
	(0.0357)	**(0.0565)**	**(0.0783)**

	1F	2F	3F
firm_growth	-0.0000	0.0000	-0.0001
	(0.6545)	(0.6970)	(0.3652)
export_intensity2ln	-0.0427	-0.0010	1.4869
	(0.8620)	(0.7420)	(0.1893)
capital_intensity1ln	**-1.6962****	**-0.0181*****	**-3.0216*****
	(0.0492)	**(0.0000)**	**(0.0035)**
e_tax1	**1.0064*****	0.0063	**2.8585*****
	(0.0003)	(0.5825)	**(0.0048)**
labor_costln	**-9.8699*****	**-0.1463*****	-17.0911
	(0.0000)	**(0.0000)**	(0.1056)
market_share2ln_east	-5.9700	-0.1222	-5.3677
	(0.3696)	(0.1364)	(0.3624)
productivity1ln_east	32.0959	**0.4392***	-7.4291
	(0.1438)	**(0.0840)**	(0.3140)
c_productivityln_east	-1.6149	0.0037	-0.4404
	(0.1068)	(0.7772)	(0.5635)
liquidityln_east	0.0493	0.0040	0.5348
	(0.9901)	(0.9533)	(0.9233)
debt_ratio100_east	-0.1061	0.0005	**-0.0960****
	(0.3896)	(0.8080)	**(0.0439)**
debt_m2_east	**0.1002****	-0.0001	0.0210
	(0.0114)	(0.6146)	(0.7089)
firm_growth_east	0.0049	**0.0001***	0.0009
	(0.1165)	**(0.0943)**	(0.8112)
export_intensity2ln_east	**1.0269***	-0.0110	-1.2439
	(0.0599)	(0.1128)	(0.2052)
capital_intensity1ln_east	-0.8858	-0.0145	**3.8906*****
	(0.6438)	(0.6552)	**(0.0086)**
e_tax1_east	-2.1236	**0.0948****	-1.6464
	(0.5846)	**(0.0387)**	(0.3743)
labor_costln_east	15.0094	0.1013	5.2044
	(0.2448)	(0.4491)	(0.7190)
_cons	**-25.0782****	**-0.2961*****	**-46.8290***
	(0.0313)	**(0.0000)**	**(0.0777)**
N	1232	1232	1232
R-sq	0.1268	0.2722	0.0372

Source: Authors' calculation
Note: *, **, *** denote 10%, 5% and 1% significance respectively.

Table 11 displays the results for the trade sector. Labor productivity appears to impact firm profitability more beneficially and insolvency and labor cost less adversely in the Eastern Croatia compared to the rest. Additionally, export intensity has a less beneficial effect and taxes more negative effect on the profitability of trade companies in the Eastern Croatia compared to the rest of the country.

Table 11: Profitability determinants in Eastern Croatia compared to the rest of Croatia (sector G)

	1G	2G	3G
market_share2ln	**2.7146*****	**0.0271*****	**3.0149*****
	(0.0004)	**(0.0000)**	**(0.0000)**
productivity1ln	-0.7002	0.0098	**-3.8446****
	(0.2348)	(0.3300)	**(0.0177)**
c_productivityln	**0.3156*****	**0.0065*****	**0.5337****
	(0.0000)	**(0.0000)**	**(0.0200)**
Liquidityln	**2.0993*****	**0.0382*****	4.0409
	(0.0000)	**(0.0000)**	(0.1114)
debt_ratio100	**-0.0348*****	**-0.0011*****	**-0.3126****
	(0.0000)	**(0.0000)**	**(0.0415)**
debt_m2	0.0057	-0.0000	**0.2141***
	(0.2737)	(0.3695)	**(0.0788)**
firm_growth	**-0.0000*****	**-0.0000*****	0.0000
	(0.0000)	**(0.0000)**	(0.9388)
export_intensity2ln	**-0.1737***	**0.0007***	0.0251
	(0.0705)	**(0.0589)**	(0.8368)
capital_intensity1ln	0.2096	**-0.0063****	1.4022
	(0.2190)	**(0.0158)**	(0.1915)
e_tax1	0.0006	**0.0001*****	0.0040
	(0.7915)	**(0.0000)**	(0.2330)
labor_costln	**-7.0087*****	**-0.0640*****	**-10.2590*****
	(0.0000)	**(0.0000)**	**(0.0000)**
market_share2ln_east	-0.5443	**-0.0311***	0.0067
	(0.6318)	**(0.0744)**	(0.9927)
productivity1ln_east	2.0742	**0.0673****	**5.8483*****
	(0.1472)	**(0.0147)**	**(0.0007)**
c_productivityln_east	-0.0904	0.0015	0.4400
	(0.7429)	(0.6929)	(0.4754)
liquidityln_east	-0.3857	0.0036	-2.2912
	(0.5771)	(0.7123)	(0.4088)
debt_ratio100_east	**0.0422*****	0.0004	**0.2745***
	(0.0062)	(0.2664)	**(0.0622)**
debt_m2_east	-0.0031	**-0.0001*****	-0.1022
	(0.7488)	**(0.0000)**	(0.4149)
firm_growth_east	-0.0000	-0.0000	0.0001
	(0.5781)	(0.1584)	(0.3046)
export_intensity2ln_east	**-0.3878*****	**-0.0051****	**-0.3799*****
	(0.0005)	**(0.0182)**	**(0.0069)**
capital_intensity1ln_east	-0.3627	-0.0101	**-2.0129***
	(0.1938)	(0.1358)	**(0.0861)**
e_tax1_east	**-1.5470*****	-0.0097	**-1.0408****
	(0.0005)	(0.3237)	**(0.0342)**

	1G	2G	3G
labor_costln_east	**6.2797*****	**0.0475*****	**8.8690*****
	(0.0000)	**(0.0000)**	**(0.0000)**
_cons	1.0431	-0.0486	5.5324
	(0.6246)	(0.3191)	(0.1653)
N	10094	10094	10094
R-sq	0.1144	0.1306	0.0592

Source: Authors' calculation
Note: *, **, *** denote 10%, 5% and 1% significance respectively.

5. Conclusion

The aim of this paper was to analyze the determinants of firm profitability in Eastern Croatia, and to determine if those determinants differ significantly from the rest of Croatian firm's profitability determinants in the corresponding sectors. The five Eastern Croatian counties that the analysis focuses on are Virovitica-Podravina, Požega-Slavonia, Brod-Posavina, Osijek-Baranja, and Vukovar-Srijem County. The Croatian firm data are obtained for the period from 2008 to 2017 from the Amadeus database on 9108 medium, large, and very large active companies in the four most important sectors of activity in Eastern Croatia, namely agriculture (A), manufacturing(C), construction (F), and trade (G). The methodology used in the analysis is the fixed effects panel model with Driscoll and Kraay (1998) standard errors since they are robust to general forms of cross-sectional dependence, but also autocorrelation and heteroskedasticity.

The results of this comprehensive study enable precise pinpointing of the most important profitability determinants in four sectors of activity in Eastern Croatia, and a determination of whether they are statistically significantly different from the rest of the country. This in turn can direct regional-specific policies to boost profitability and the catch-up process of this region. The obtained results can be summarized as follows.

The analysis of agricultural sector showed robust negative impact of taxes on profitability and this negative impact is significantly greater in the Eastern Croatia compared to the rest of the country. This is an interesting finding for the policy makers wishing to stimulate entrepreneurial activity in this region via tax reduction for producers of agricultural goods. There are several ways of stimulating entrepreneurial activity, as reducing income tax in agriculture, profit tax or introducing grace periods for starting a business in agricultural sector. Export intensity also stands out as a possible great contributor to profitability of agricultural firms, even greater than in the agricultural sector of the other parts of Croatia. It should be noted however that the lack of small firms is the main limitation of the study of agricultural sector in Eastern Croatia since this sector predominantly consists of precisely small family firms. The conclusions of this study hence do not necessarily apply to them.

The firm profitability of the manufacturing sector is positively impacted by the market share, labor productivity, capital productivity, liquidity and export intensity and negatively by insolvency, capital intensity and labor cost. Compared to the rest of the country only the export intensity has a more beneficial effect in this region, just like in the agricultural sector, and labor costs have less detrimental effect on manufacturing firm profitability in Eastern Croatia.

The analysis of the construction sector showed that none of the assumed profitability determinants are robustly statistically significant and also that there are no robust differences in profitability determinants of this sector in Eastern Croatia compared to the rest of the country. This sector, hence, warrants some further analysis.

The trade sector firm profitability is positively determined by the market share, labor and capital productivity and liquidity. At the same time, it is negatively impacted by the insolvency, indebtedness, export intensity, capital intensity, taxes and labor costs. Additionally, the analysis showed that productivity impacts firm profitability more beneficially and insolvency and labor costs less adversely in the Eastern Croatia compared to the rest of the country. Interestingly, export intensity and taxes appear to have more negative effect on the profitability of trade companies in the Eastern Croatia compared to the rest of the country.

In general, the firms in the four biggest sectors of activity in Eastern Croatia benefit from the higher market share, labor productivity and capital productivity. On the other hand, the profitability is negatively impacted by labor costs, insolvency and higher capital intensity. Also, export intensity has on average more beneficial effect on profitability in this region, labor costs are less constraining and taxes have more pronounced negative impact on profitability of in these four sectors of activity in Eastern Croatia.

These results offer clear directions for assisting development of Eastern Croatian entrepreneurship, both in general and sector-specific. Focusing on export-oriented activities in this region, decreasing the tax burden or investing in labor productivity measures are just a few approaches that could help Eastern Croatian catch-up process to the Croatian average. Although labor costs stand out with their negative impact on profitability, this impact is significantly less negative than in the rest of the country, probably because these costs are much lower in Eastern Croatia already. That is why decreasing labor costs would not be one of our main recommendations for stimulating growth of this region, unless it is done through tax cuts.

The main limitations of this study are the absence of small companies in the analysis and the possible errors in the market share calculation (as was explained in the Data section). However, since the analyses of the regional specifics of firm profitability in Croatia have been scarce and only partial, this paper, with its comprehensive empirical panel analysis of the profitability determinants of Eastern Croatia companies from 2008 to 2017, and statistical testing of the differences between these determinants in Eastern Croatia compared to the rest of the country, contributes significantly to the scientific economic literature. Additionally, the robust conclusions of the study have important significance for the economic policy which can tailor the entrepreneurial support according to the needs of specific sectors.

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EXPLORATION AND EXPLOITATION OF MINERAL RESOURCES IN ENVIRONMENTAL PROTECTION

ABSTRACT

Environmental protection ensures the complete preservation of environmental quality by individual environmental components (soil, water, air, nature) and the preservation of natural resources and their rational use as a basic condition for sustainable development. Croatia is not particularly rich in mineral resources, but exploration and exploitation, as a primary activity in each country's economy, is of great importance. The exploitation of mineral resources is one of the activities that significantly affect the soil, relief, flora and fauna and partially or completely alter the original complete and recognizable image of the landscape. The purpose of this paper is to identify and analyse anthropogenic agents and the environmental impact of the exploration and exploitation of mineral resources in order to raise awareness of how important our role in environmental protection is. It is important to emphasize that the implementation of existing laws and regulations related to the preservation of environmental quality and environmental components will preserve the existing state of the environment and reduce the adverse impact of the exploitation of mineral resources. The research methodology in this paper was based on theoretical research, which was based on the analysis of data obtained from the competent and public government bodies, as well as inductive - deductive data analysis in order to show the existing state of mineral resources in the Republic of Croatia and its environmental impact.
Predictions and rapid depletion of solid minerals have not materialized (this does not apply to oil and gas whose estimated reserves are limited), so mining will be able to meet the energy sector's needs for mineral resources in the future, with a strong emphasis on environmental protection. Environmental protection has become a strong limiting factor in the excavation of mineral resources.

Key words: *air, water, soil, wildlife, mineral resources.*

1. Introduction

With his very existence, man began to shape the environment and adapt it to his needs. In the initial stages of its development, it slightly disrupted the natural balance in the environment. The natural environment inhabited by man provides with the basic necessities of life and is therefore irreplaceable. At the same time, all those needs, desires, habits and interests of man

that nature cannot directly satisfy, are constantly growing in quantity and quality. Therefore, by using natural resources (air, water, soil, plants, animals) and cultivating them in different ways, man shapes his own environment, different from the natural one. The natural environment is in a multiple crisis today. For this reason, every modern society is necessarily oriented towards setting and adhering to ecological criteria of development, ie concrete ecological standards in all dimensions of life, especially in the fields of production, labour, transport, consumption and leisure, culture and politics (Omejec et al. 2003, 7). With the development of technology and the increased demands to meet their needs, man today has a significant impact on the natural balance and threatens many ecological systems. Over time, great conflicts have arisen in the interrelationship of the natural and human systems, since man has fulfilled his needs and desires without regard to the capabilities and endurance of the natural system. Neglecting, endangering or completely destroying the elements of the primary system, man has caused an increasing shortage of raw materials and the emergence of the first ecological disasters. This led to a gradual change in the relation of man to nature. People began to realize that nature is not an inexhaustible well and that it has limited resources. Awareness of resource constraints arose from people's practical experience. Man's attitude to progress and the environment that surrounds him has produced an ecological crisis, that is, he has changed the state of the natural environment so much that it goes beyond the renewable possibilities of nature (Črnjar, 2002, 15).

Intensive industrial development causes an increased need for mineral exploration, and every type of industry poses a threat to the preservation of environmental quality. Therefore, the exploitation and transportation of mineral resources must take place under controlled conditions. Degradation, or rather environmental damage, means any damage caused to protected plant or animal species and their habitats and landscape structures under a special regulation, which has a significant adverse effect on the maintenance of a favourable condition of a species or habitat type and quality of the landscape (Law on environmental protection NN 80/13, 153/13, 78/15, 12/18 and 118/18). Human relations to the environment, which for almost two centuries has been based on anthropocentrism, have led to a number of global, regional and local environmental problems, culminating in an unfortunate ecological crisis (Afrić, 2002, 578).

At the beginning of a new era, it took 600 years for our planet's population to double, and by the early 19th century. the population has doubled in 80 years, and today it has doubled in 35 years. It only took 12 years for the population to increase by one billion, the shortest period to date. The environmental impact of such a population explosion can be illustrated by the fact that in the early 20th century there is hardly any talk of environmental problems, and today there is talk of an ecological crisis of global proportions (Črnjar, 1997, 28).

In the description of the current state and intensive industrial development in this case of mineral exploitation in this paper, based on the analysis of statistical data, using the theoretical, methodological and empirical literature, the existing state of mineral resources in the Republic of Croatia and its environmental impact are presented. Previous research has stated that climate change, ozone depletion, droughts, forest destruction, threats to the conservation of biological species are all important problems affecting the state of the environment. However, again, without the exploitation of mineral resources, it is impossible to imagine the sustainable development of civilization. Therefore, the aim of this paper is to point out the problems that impose a completely new approach in all industries, including mining. This approach basically involves the direct inclusion of environmental protection and conservation in the development plans of all activities, including the exploitation of mineral resources.

2. Mineral resources and the environment

According to the Croatian Mining Act, mineral resources (mineral resources) are considered to be all organic and inorganic mineral resources that are in solid, liquid or gaseous state in the original deposit, deposits, tailings, smelting or natural solutions. Mineral raw materials within the meaning of the Act are: energy mineral raw materials, mineral raw materials for industrial processing, mineral raw materials for the production of building materials, architectural stone, mineral raw materials of metals Mining Act (NN 56/13, 14/14, 98/19).

Mineral resources are non-renewable natural resources of interest to the Republic of Croatia and are owned by the Republic of Croatia. The very terminology of the word non-renewable natural resource means that it is a source of energy that cannot be regenerated or produced again, therefore it is of interest to the Republic of Croatia and as such defined by the Constitution and applicable Mining Act.

The main feature of non-renewable resources is that their quantities are of a given and constant nature, so the concept of sustainable use of resources as for renewable resources is not applicable to them, but the rate of disappearance and the total amount of resources is important. Calculating and predicting the present and future availability of these resources is very complex. In simple and economic considerations, the rarity of those resources is reflected in the costs and prices. In order to calculate and predict the present and future availability and scarcity of resources, it is necessary to use combined methods of natural and social sciences. Balancing potential stocks of non-renewable resources (related to population growth, technical progress, social and economic expectations, etc.) is a precarious job. Therefore, "debates on resource scarcity" will continue to remain partly within the sphere of "environmental ideology" technocentric and ecocentric views (Črnjar, 2009, 211).

Unlike non-renewable energy sources, which are in limited quantities and pollute the environment, renewable or alternative energy sources can be practically used indefinitely and do not pollute the environment to such an extent as non-renewable energy sources. In addition to geothermal energy, the most significant renewable energy sources are: water energy, bioenergy, wind energy and solar energy. Tidal and wave energy are less significant renewables.

In addition to water energy, the main problems with renewables are cost and low volume of the energy obtained. Renewable energy potential is enormous, but current technological development is not at a level that would allow their exclusive use. In the future it is expected a strong development for several reasons: renewables play a very important role in reducing carbon dioxide emissions into the atmosphere; increasing the share of renewable energy sources increases the sustainability of energy systems and also helps to improve the security of energy delivery by reducing the dependence on imports of energy raw materials and electricity; it is expected that renewables will become economically competitive with conventional energy sources in the near future (Nakić, 2010, 97-98).

According to the Mining Act, mineral exploration involves works and tests that determine their existence, quality, quantity and possible conditions of exploitation, and exploitation is considered to be extraction from the reservoir and breeding. The basic document that defines the management of mineral resources and plans for mining at the national level is the Strategy for the Management of Mineral Resources (drafted in 2008 for a period of 30 years). According to the said Law, the units of regional self-government are obliged to prepare mining-geological studies for their areas as a basis for planning the needs and ways of supply of mineral resources in the development documents of the regional and local level. Based on these studies, after harmonization of all spatial, natural, environmental and other requirements and restrictions, in accordance with laws and regulations, it is decided to open new ones to rationalize the use of

existing exploitation fields. Strategic planning and decision-making on the management of mineral resources should integrate knowledge of geological potentials (with the valorisation of exploitation fields based on the occurrence of mineral resources, geological structure and existing exploitation), spatial-planning conditions and restrictions related to the environment, protection of nature, water, soil, landscape and cultural good.

Mineral resources can be exploited after the authorization issued by the competent authorities have been collected, and this authorization determines the area where the activity can be performed (Law on Physical Planning NN 153/13, 65/17, 114/18, 39/19, 98/19). The mining project serves as the basis for the exploitation of mineral resources and construction of mining facilities. Large-scale mining operations, primarily surface mines, often radically alter the landscape and leave consequences in the natural environment. For the sake of sustainable development of the living world and for aesthetic reasons, it is necessary to re-cultivate the area after the exploitation of the stone raw material. In terms of environmental protection, the obligation of the contractor to preserve the devastated area during the execution and after the exploitation of the raw materials is prescribed. This condition of rehabilitation in the area is conditioned by a location permit (Tušar, 2002, 358).

According to the Environmental Protection Act (NN 80/13, 153/13, 78/15, 12/18,118/18), the environment is the natural and any other environment of organisms and their communities, including man, which enables their existence and their further development: air, sea, water, soil, earth's crust, energy and material goods, cultural heritage as well as part of the environment created by man; all in their diversity and totality of interaction. The environment is still understood as a mere subject of human regulation. In doing so, the protection of the environment or nature is not directed against progress, but rather the fight against natural and unplanned development that is contrary to environmental and human laws (Cifrić, 1989, 29). Damage to the environment due to human economic and other activities is actually a disturbance to the state of natural systems and talks about changes occurring in the physical environment. It is these changes that have a negative impact on life that should be described as an environmental problem, and people who accelerate this phenomenon should be considered one of its causes. As all changes in the physical environment are not environmental problems (e.g. natural phenomena), environmental changes should be considered only those environmental changes that have occurred and are caused by human activity and have a negative impact on life on Earth (Glasbergen, 1995, 39). Awareness of the need to address environmental issues emerged in the late 1960s and early 1970s.

In 1972, a team of American scientists, led by Jay Forrester, published a work called "Limits of Growth," outlining a model of linear exploitation of the economic order that warned that the existing economic system was threatening the Earth's ecological system. It was the first global approach to environmental protection that led to a comparison of economic growth and environmental degradation. At the same time, it emphasizes the reciprocity of the relationship between man and nature, and provides a kind of synthesis of the basic factors that influenced the environmental problems of today (Cifrić, 1989, 7). Initially, environmental policy was oriented towards local problems, but since environmental destruction was a cause for general concern, it soon spread beyond national borders. International environmental law is part of international law that evolved systematically only in the 20th century, following the UN Conference on the Human Environment, held in Stockholm in 1972, although the first international treaties on environmental protection were concluded as early as the 19th century. (Mesec, 2009, 218).

At the UN Conference on Environment and Development in Rio de Janeiro in 1992, the attention of the world public was focused on growing problems related to the issue of development and environment at the local and global level. The Declaration and Action

Program for the 21st Century (Agenda 21), adopted at the Conference, strongly support the principle of sustainable development (Ministry of Foreign and European Affairs, Sustainable Development, 2019). Agenda 21 is the document by which the international community agreed on the program and established priorities for the conservation and management of development resources in the 21st century.

After the Rio Conference, there were a number of worldwide environmental conferences (Johannesburg, Helsinki, Kyoto). The conferences mentioned resulted in the signing of a series of environmental protocols. Scientist Jay Forrester made it in 1972. model of linear exploitation of the world economic order and published his research in the work "Limits of growth" in which he warned that the existing economic system threatens the Earth's ecological system. It is considered to be the first global approach to environmental protection that has led to a comparison of economic growth and environmental degradation (Boulding, 1970, 125). Man's environmental impact, his limited knowledge of nature, but also his lack of knowledge about the potential consequences of environmental impact, have led to the need to control and reduce this adverse environmental impact through the implementation of environmental policies. Today environmental policy is understood as public environmental management, as a common good, and includes the prevention of further spread of environmental degradation and all types of pollution, public control of all sources of pollution, rational utilization of existing natural resources and directing production processes, transport and various services to clean and harmless technologies (Čizmić, 2005, 62).

Environmental legislation in the Republic of Croatia is made up of international treaties (conventions and protocols) laws and their implementing regulations approved by the Croatian Parliament. The umbrella law on environmental protection in the Republic of Croatia is the Environmental Protection Act. This law provides the basis for the adoption of a series of implementing acts that fully harmonize the legislation of the Republic of Croatia with the European legislation. In the coming period, Croatia faces the challenge of effectively implementing transposed directives and policies that will contribute to the fulfilment of environmental obligations assumed by Croatia's full EU membership. The basic strategic documents are the "National Environmental Strategy" and the "National Environmental Action Plan" of 2002. The objectives and measures for the protection of individual environmental components are defined within the sectoral strategic documents. The description of the current situation in the national strategy states, inter alia: "The exploitation of mineral resources in Croatia includes surface exploitation, exploitation from the bottom of watercourses and stagnant waters, exploitation from the seabed, exploitation from the underground and exploitation from seawater. Particularly negative impact, primarily on the landscape, is the exploitation of surface mines. The main problems are: low environmental priority due to lack of awareness of sustainable development and low economic power, air, water and soil pollution, inadequate production structure of the industry, outdated technology and outdated industrial equipment, poor location of production facilities (noise, landscape), lack of financial resources for industrial investment, restructuring, the introduction of clean technologies (National Environmental Strategy and National Environmental Action Plan NN 46/02). The main factors that influenced the development of the EU's environmental policy are issues related to transboundary pollution, establishing conditions for fair and free trade and developing efficient and sustainable economic growth (Kersan-Škabić, 2015, 437). The basic documents dealing with environmental policy in the EU are environmental action programs. They set out the principles and objectives of the environmental policy for a particular period. Horizontal environmental legislation in the European Union is made up of directives governing the environmental field and other related areas. By their nature, these directives are more procedural than technical. They prescribe procedures and mechanisms aimed at integrating

environmental care into decisions taken in both the public and private sectors, particularly related to land use and the management of natural resources.

According to the current legislation in the Republic of Croatia, surface, underground and underwater mining facilities are a subject to environmental activities for which an environmental impact assessment or study is required. Environmental Impact Assessment (EIA) is a process of assessing the acceptability of an intended intervention with respect to the environmental acceptability of a particular area and determining the necessary environmental measures, in order to minimize the impacts and achieve the highest environmental quality possible (Assessment Regulation environmental impact of the project NN 6/14, 3/17). The study must evaluate the environmental impact of the intervention based on the factors that depend on the type of intervention and the environmental characteristics. The study must determine the extent, magnitude and duration of the impact, such as meteorological, climatological, hydrological, hydrogeological, geological, geotechnical, seismological, pedological, bioecological, landscape, health, sociological, rural, urban, traffic (Mesec, 2009, 22).

3. Annual balance sheets of mineral resources reserves

The significant growth of the construction industry, as well as the slight recovery of the manufacturing industry (with the introduction of new environmentally friendly technologies), which has been happening in Croatia in recent years, also requires an adequate exploitation of mineral resources that are the basis of construction as well as raw materials for industrial processing.

According to data from the Ministry of Economy of the Mining Directorate from 2013, there are 759 exploitation fields in the Republic of Croatia (Mining - Geological Study of the County of Varaždin "Official Gazette of the County of Varaždin" 29/16). According to the type of raw material being excavated or to be excavated on the basis of confirmed exploitation reserves, the approved exploitation fields shown in Table 1.

Table 1: Mineral exploration in the Republic of Croatia

TYPE OF MINERAL RAW MATERIAL	NUMBER OF OPERATING FIELDS
Architectural building stone	128 exploitation fields
Asphalt	1 exploitation fields
Barite	9 exploitation fields
Bentonite clay	1 exploitation fields
Bauxite	26 exploitation fields
Clay brick	36 exploitation fields
Geothermal water	5 exploitation fields
Gypsum	13 exploitation fields
Construction sand and gravel	134 exploitation fields
Construction sand and gravel	14 exploitation fields
Ceramic and refractory clays	12 exploitation fields
Flint sand	19 exploitation fields
Milovka	1 exploitation fields

TYPE OF MINERAL RAW MATERIAL	NUMBER OF OPERATING FIELDS
Mineral raw material for cement	11 exploitation fields
Sea salt	4 exploitation fields
Silicate raw material for industrial processing	1 exploitation fields
Technical building stone	271 exploitation fields
Tuf	4 exploitation fields
Coal	9 exploitation fields
Hydrocarbons (petroleum)	60 exploitation fields
Total: 759	**759 exploitation fields**

Source: Mining-geological study of Varaždin County, June 2016

Within the Department for Sector Pressure Monitoring, a database was created with a GIS software showing the exploitation and exploration fields of mineral resources in the Republic of Croatia. What it looks like is shown in Figure 1. The database was created according to the data of the Ministry of Economy, Entrepreneurship and Crafts, Mining Sector, and covers the period until 30.1.2016 (Ministry of Economy, Labour and Entrepreneurship, https://www.mingo.hr/public/documents/107-vodic-zastita-okolisa-lowresfinalweb.pdf).

Figure 1: GIS software representation of exploitation and exploration fields of mineral resources in the Republic of Croatia
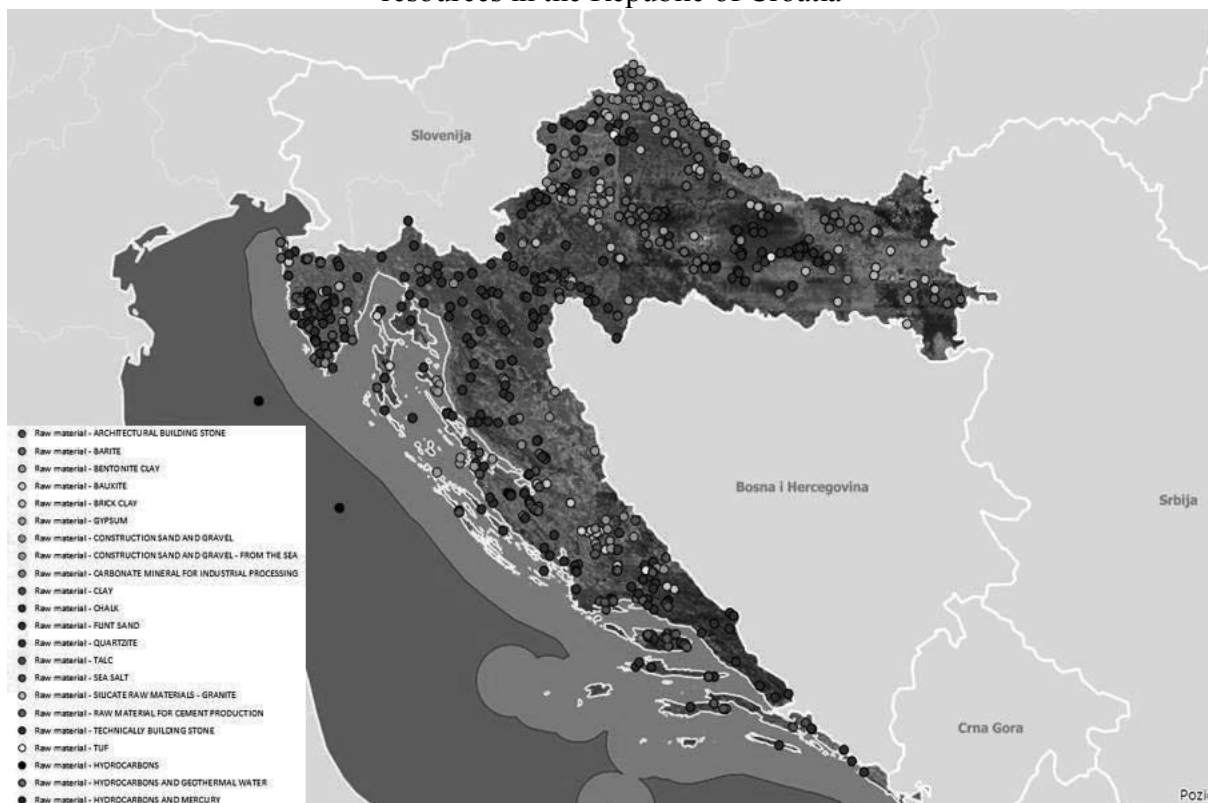
Source: Croatian Agency for the Environment and Nature, 2016

Among the non-energy raw materials for the Republic of Croatia, of particular economic importance are: architectural - building stone, technical building stone, construction gravel and

sand. Technically building stone is mostly found in the Dinarides - from Istria to the southernmost parts of Dalmatia. Architectural - building stone is restricted to tectonically less disturbed rocks, and deposits of building gravel and sand are mostly in areas along river courses. According to the results of more recent exploratory work, in 2012, larger quantities of exploitation reserves of most non-energy mineral resources were recorded compared to the 1997 data. During this period, the utilization of registered exploitation reserves decreased by more than 50%, which opened the space for increasing economic activities for the exploitation and processing of certain raw materials. The most significant positive differences of the established exploitation reserves are: architectural and building stone, bauxite, gypsum, gravel and sand, carbonate raw material for industrial processing, silica sand, silicate raw materials for industrial processing, raw materials for cement production, technical building stone and mercury (Spatial Development Strategy of the Republic of Croatia NN 106/17).

The basis for the economic development of a country and its social standard is based on a sufficient amount of energy as well as security of energy supply. With the increase of energy consumption, the need for energy minerals and their exploitation and processing increased. The energy needs in Croatia are largely met by the use of energy minerals - coal, oil, natural gas and radioactive minerals. In Croatia, reserves of coal, oil, natural gas and geothermal water have been established, and reserves of radioactive mineral resources have not been established.

In 2015, the share of natural gas in primary energy production was 27%, crude oil 12.5%, and the share of thermal energy was almost negligible and amounted to about 0.2% (Ministry of Environment and Energy, Annual energy review - Energy in Croatia 2015). Exploitation reserves of all energy mineral resources decreased from 1997 to 2012, with natural gas exploitation increasing, geothermal water exploitation stagnating, and condensate and oil exploitation decreased. Coal has not been exploited in the Republic of Croatia since 1994 (Spatial Development Strategy of the Republic of Croatia (NN 106/17). Unlike other types of economic development activities, mineral resources can be exploited only at places where their deposits have been established. Taking up space for the exploitation of mineral resources basically related to the location predisposition of a particular mineral resource. Acceptance of a certain space as a possibility for exploitation depends on a number of factors (economic, spatial, ecological, etc.). Figure 2. shows a map of the locations and the occurrence of mineral resources.

Figure 2: Overview map of deposits and occurrence of mineral resources
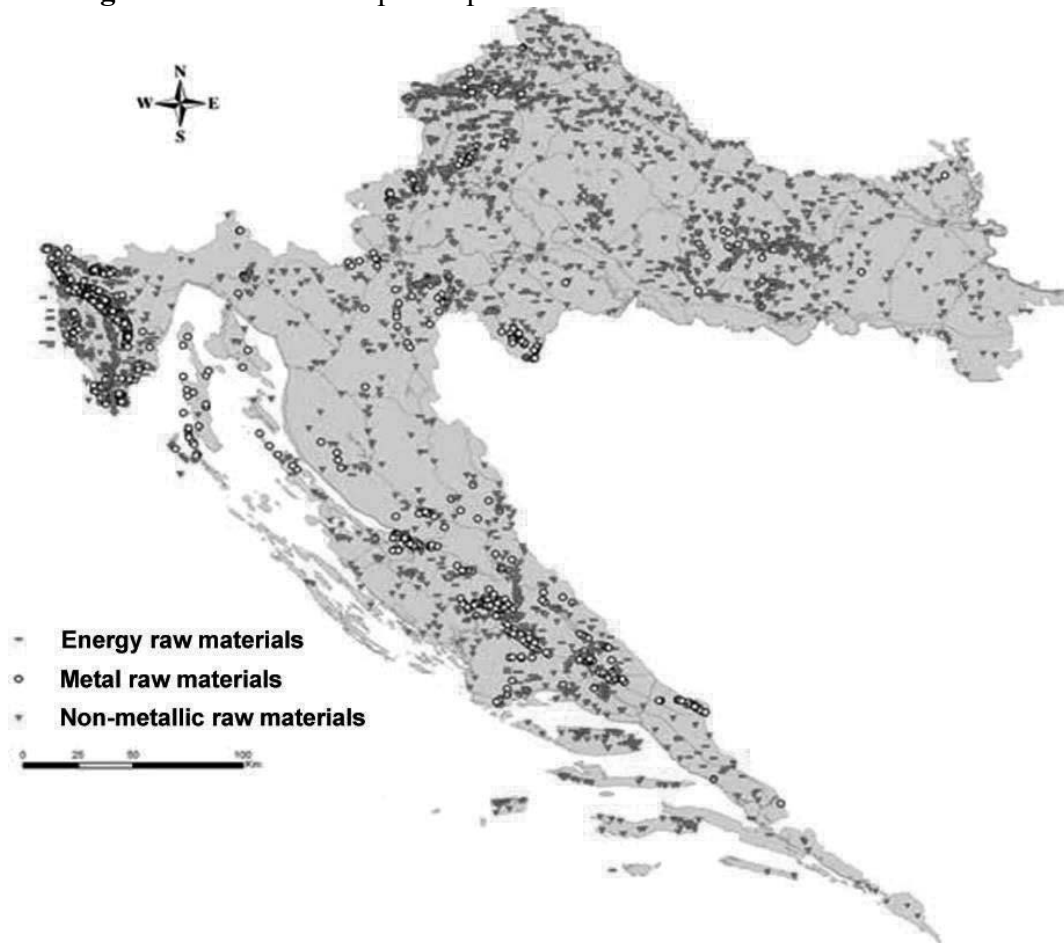
Source: Map of mineral resources, project code 181-1811096-1104, Croatian Geological Institute

It is clear that the exploitation of mineral resources is, by its nature, likely to cause a number of environmental impacts. However, it should be emphasized that these impacts remain largely localized and do not have far-reaching effects outside the immediate vicinity of the site of exploitation.

It should be pointed out that ores are a national treasure and a non-renewable resource, and mining is a comprehensive and complete branch of technology, without which the survival of civilization is unthinkable. Therefore, intensive industrial development, which entails increasing needs for the exploitation of mineral resources, especially energy, imposes the necessity of a balanced approach in meeting the social and economic needs for environmental protection, which is also the definition of the concept of sustainable development. The development of mining in the future will depend to a large extent on further population growth on Earth, related demand for energy and mineral resources, realistic estimates of existing ore reserves, assumptions about the economic growth of individual regions and the state of the environment.

Given that the exploitation of mineral resources has a significant impact on the area (landscape, environment), i.e. significantly changes the landscape image and the state of the environment, it would be necessary to determine the future use of the space to be established after the exploitation already before the beginning, or possibly in the initial stages of exploitation. , in order to adapt the exploitation as necessary to its future purpose, i.e. to enable the intended purpose after the exploitation has been completed. Spatial planning documents generally plan

other future uses of the space in principle, but given the relatively long time period of performing mineral exploration activities, the realization of the planned final purpose is problematic, especially finding investors who would be interested in realizing the final second purpose of the exploitation field after completed exploits. The restoration of the space to its original state, which is often referred to in the spatial planning documents as a future final purpose is almost never possible (especially in the case of the exploitation of technical building stone).

4. Conclusion

The exploitation of mineral resources is one of the activities that significantly affect the soil, relief, flora and fauna and partially or completely alter the original complete and recognizable image of the landscape. The exploitation of mineral resources by surface mining takes up larger areas and has many more direct effects on space and the environment. Given the environmental sensitivity, environmental research has become a powerful control mechanism in the exploration and exploitation of mineral resources. In addition to the physical devastation of the area, in terms of relief change, landslide occurrence, loss of vegetation, soil subsidence (due to underground work and the detrimental effects of blasting), etc., qualitative devastation is possible as a result of various contaminants (soil, water, air), changes microclimates (due to removal of larger forest areas, creation of artificial lakes), ecosystem change (logging and dust, exploitation process). The major risk of space degradation due to large-scale pollution is the area of exploration, exploitation and transportation of oil (especially marine corridors). It is very important to carefully plan locations and boundaries of new exploitation fields in relation to distances from existing buildings, boundaries of construction areas of settlements, tourist zones, economic zones, recreational and special purpose zones and established infrastructure corridors, taking into account the type of mineral raw materials and how they are obtained.

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WOMEN'S POLITICAL REPRESENTATION AND BUDGET TRANSPARENCY IN CITIES AND MUNICIPALITIES OF EASTERN CROATIA[1]

ABSTRACT

Although the role of women in the politics is a topic of growing interest, the relationship between the number of women in governments' representative bodies and budget transparency has not been explored sufficiently, especially at the local government level. The main objective of this article is to identify the link between the level of local government unit (LGU) budget transparency and women's political representation in LGU representative bodies (local councils) in Eastern Croatia. Firstly, based on a descriptive analysis, observations are made for 555 Croatian LGUs (municipalities and cities, excluding City of Zagreb) about where women are more represented: i) in municipalities or cities; ii) in larger or smaller LGUs; iii) in poorer or richer LGUs; and iv) in which of the five regions (as classified by the Tax Administration). Then, a cluster analysis is conducted for all 127 Eastern Croatia LGUs for the period 2014-2018, controlling for several variables. The results are presented for all cities and municipalities in Eastern Croatia together and then separately for municipalities and separately for cities. A strong link is established between a larger number of women in local councils and higher budget transparency, particularly in cities. This relationship is accompanied by higher fiscal capacity and internet access, and a lower unemployment rate and voter turnout.

Key words: *gender, budget transparency, Croatia, Eastern Croatia, cluster analysis.*

1. Introduction

The role of women and their representation in political and public life is one of the leading topics relating to the global challenges of gender equality. Women are still under-represented

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when it comes to decision-making and leadership positions at all levels of government. The OECD (2014) points out that greater equality in gender representation in political spheres can have a positive impact on economic and social outcomes including contributing to enhanced citizen trust in government and reinforcing inclusive and participatory policies. The European Commission (2013) also encourages private and public organizations to promote gender diversity in leadership positions. It is argued that female political representatives achieve better communication with citizens and are generally more inclusive when it comes to decision-making than men (Fox & Schuhmann, 1999). Furthermore Gilligan (1982) argues that while men are more self-reliant and rule-bound, women are more flexible, open to other opinions and ideas and the expression of interconnectedness. Eagly & Karau (2002) add that women are more communicative, open to cooperation and empathetic, which may lead to an increase of citizens' trust in government.

Very little research has been done relating to the political representation of women at the local government level, but authors like De Araújo & Tejedo-Romero (2018) show how, given their more open and inclusive leadership style, a greater representation of women councillors and executives contributes to more transparent governance. De Araújo & Tejedo-Romero (2016) argue that gender equality is crucial for local government representative democracy, which links local budgets to the needs of ordinary citizens, and that for ordinary citizens LGU budgets are very important because numerous key public services are provided from these budgets. They also argue that the problems of budget transparency might be more important at the local government level since local government officials have more discretion in making budget decisions than officials at the national level and this is one of the reasons this analysis is focused at the local government level.

Our previous research has identified resident's income, LGU fiscal capacity and administrative capacity (Mourao, Bronić & Stanić, 2020; Ott, Mačkić, Bronić & Stanić, 2019); political ideology and political competition (Ott, Mačkić & Bronić, 2019, 2018) as important determinants of local budget transparency. This paper aims to explore whether there is any relationship between female political representation and budget transparency at the local government level. Using data on local election results, this paper firstly identifies the women councillors and mayors/municipality heads in 555 Croatian municipalities and cities.[2] Using this information, it is possible to analyse in which of them women's political representation is higher (cities or municipalities, in larger or smaller LGUs, poorer or richer, etc.). Secondly, based on theoretical and empirical underpinnings, cluster analysis is conducted for 127 Eastern Croatian LGUs for the period 2014-2018 to demonstrate a possible link between women's political representation (WPR) and local budget transparency levels. Local budget transparency is measured by timely publication of five key budget documents (budget proposal, enacted budget, citizens' guide, mid-year and year-end reports) on the LGUs' websites (Ott, Bronić, Petrušić, Stanić & Prijaković, 2019). The paper seeks to contribute to the growing literature on the importance of promoting gender diversity in local political spheres, thus establishing the relationship between WPR and local political accountability, proxied by an LGU's budget transparency levels.

The rest of the paper presents the theoretical background, the data and their descriptive analysis, the methodology and results of the cluster analysis, ending with results, conclusions, limitations and suggestions for future research.

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[2] Zagreb is not included because of the comparability of the data and because it has the status of both city and county.

2. Theoretical background

In line with the settings of social role theory and status characteristics theory, it is argued that women and men have certain characteristics that direct them towards particularly different types of roles and standards of behaviour (Birgit, 2007). One of the first social science studies on women, their individuality and integrity was presented by Gilligan (1982). She pointed out that women and men have different moral commitments, different perceptions and understandings of reality conditioned by social norms, which is why they express different systems of values and behaviour. Thus, women tend to be more compassionate, more concerned with the needs and wishes of others, and at the same time less commanding and self-confident than men (Eagly & Steffen, 1984). Several authors have highlighted the fact that women tend to have a strong sense of equity and community (Hamidullah, Riccucci & Pandey, 2015); different ways of communicating, approaching and influencing others (Merchant, 2012) and are more willing to cooperate and more egalitarian (Eagly & Johannesen-Schmidt, 2001).

The literature shows that due to the mentioned female characteristics the style of women's leadership and communication is more open, inclusive, approachable and transparent; and that women are closer to the idea of disclosing budget information, fostering greater budget transparency and are more likely to involve traditionally excluded and vulnerable groups in budgetary processes (Beck, 2001; Fox & Schuhmann, 1999). Thus, women's leadership styles could improve the public administration governance (del Sol, 2013). Increasing budget transparency contributes to reducing information asymmetry between citizens and government, i.e. greater budget transparency can solve the agency problem by increasing the ability of citizens to monitor the activities of elected representatives and scrutinize published budgetary information over all stages of the budget process (Laswad, Fisher & Oyelere, 2005). Women are more likely to resolve the agency dilemma and information asymmetry, since they are more willing to have their actions monitored and controlled, to cooperate and be readier for compromise, which enables them to resolve conflict situations faster than their male counterparts (Rosenthal, 2000). These typical characteristics of women help them embrace higher transparency levels, increasing legitimacy of their actions and the actions of their LGUs, encouraging cooperation, which helps them gain more citizen trust.

In the last decade, there has been a growing interest in research on WPR and its links to the turnaround in government activities, changes in decision-making, and especially in the allocation of budgetary resources (e.g. De Araújo & Tejedo-Romero, 2016). Representative democracies are investing more effort into various activities that support more opportunities for women leaders, that is, their greater political representation. Accordingly, a greater number of female political representatives and a theoretical background on the different social roles between the sexes have contributed to the rise in research on the link between WPR and governance styles and mechanisms, especially budget transparency.

Several studies have explored this relationship at the local government level, employing a dummy variable if the mayor / municipality head was female, and exploring its impact on the LGU budget transparency. De Araújo & Tejedo-Romero (2018) conducted a panel data analysis on a sample of Spanish municipalities, concluding that greater representation of women's executives has a positive impact on local budget transparency. Similarly, Tavares & da Cruz (2017), based on OLS estimates, found that male mayors show lower levels of budget transparency than their female counterparts. On the other hand, on a sample of Italian and Spanish municipalities and using Tobit regression analysis, Gesuele, Metallo & Longobardi (2018) indicated a negative relationship between women mayors and LGU budget transparency.

However, a negative relationship was significant only in one of the three models presented. De Araújo & Tejedo-Romero (2016) enriched the analysis including an additional indicator - the proportion of women councillors in the local council. In this way, their WPR in a particular LGU consisted of two variables: (1) a dummy, if the woman was the mayor and (2) the proportion of women councillors. They found that in Spanish municipalities, a greater representation of women in local political life contributes to greater local budget transparency and, consequently, a reduction in information-asymmetry in the principal-agent relationship.

Accordingly, this paper, presents the state of WPR in Croatian local councils and local executives, hypothesizing that greater WPR is positively associated with higher levels of budget transparency.

3. Data and descriptive analysis

This section presents a descriptive analysis and offers observations on WPR for 555 Croatian LGUs (municipalities and cities).

3.1. WPR in Croatian 555 cities and municipalities

Graph 1 shows the average representation of women in local councils and local executive from the 2013 and 2017 local elections. Compared to 2013, the 2017 average WPR in both local councils and local executives increased. This increase is higher in municipalities, especially when it comes to councils. If 555 LGUs (cities and municipalities) are considered, in 2017, average WPR in local councils was more than 45% higher than in 2013 (Graph 1).

Graph 1: Average women's political representation, 2013 and 2017 local elections, in %
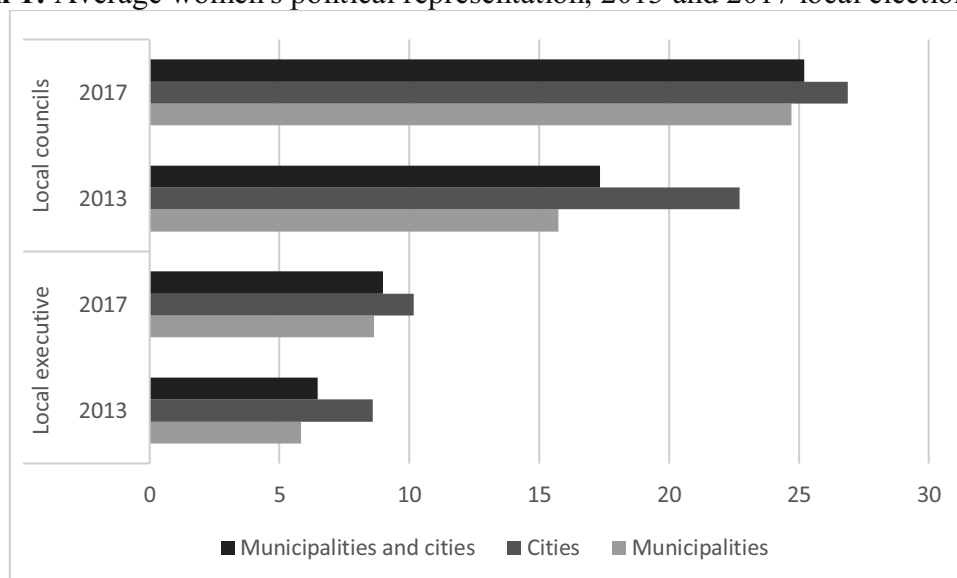
Source: Authors based on State Electoral Commission (2019).

3.2. Population and WPR

Although women executives won only in 6% of all LGUs (cities and municipalities) in the 2013 local elections, some features can be highlighted: 75% of LGUs with a woman as the head of the executive had a small population of less than 5,000 and only 5 had a population of more than 10,000 (Pleternica, Knin, Viškovo, Koprivnica, Sisak). In the 2017 local elections, the number of women executives increased slightly, but to only 9% of the total number of LGUs.

These are again almost all small municipalities and cities with fewer than 10,000 inhabitants, and only three - Viškovo, Sinj and Sisak - with more than 10,000 inhabitants.

When it comes to local councils, in the 2013 local elections, 17 LGUs with the largest WPR in local councils were again small ones with fewer than 4,000 inhabitants - almost all were municipalities except for two cities – Novigrad (Istria) and Vis. In almost 14% of LGUs women were not given any seats in local councils. These are mostly LGUs with fewer than 5,000 inhabitants (95%), and only 4 LGUs with more than 5,000 inhabitants - Klinča Sela, Nuštar, Križ and Matulji. A similar pattern was repeated in the 2017 local elections, where the 15 LGUs with the largest WPR in local councils were all small municipalities with fewer than 4,000 inhabitants, and only one city - Biograd na Moru - with 5,800 inhabitants. In 4% of LGUs women did not have a single seat in local councils; these are mainly small municipalities with populations of less than 5,000 with the exception of two cities - Nin and Opuzen.

3.3. Fiscal capacity (as a proxy for LGUs' wealth) and WPR

After the 2013 local elections, in the period 2014-2016, the average fiscal capacity per capita[3] of LGUs with a female executive is greater than the fiscal capacity of LGUs with a male executive (HRK 3,005 vs. HRK 2,698). In the 20 municipalities and cities with the most women in local councils, the average fiscal capacity per capita is HRK 3,824.[4]

However, after the 2017 elections, in the period 2017-2018, the average fiscal capacity of LGUs with a female executive is lower than that of a male executive (HRK 2,802 vs. HRK 3,157). For the 20 LGUs with the most women in local councils, the average fiscal capacity is the same as for the male executive (HRK 3,158).[5]

3.4. Tax Administration regions and WPR

WPR in local councils is higher than in local executives. WPR in local executives is lowest in Northern Croatia and highest in Central Croatia, while in local councils it is lowest in Dalmatia and Eastern Croatia and highest in North-Adriatic Croatia (Graph 2).

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[3] Fiscal capacity can be defined as the ability of an LGU to raise revenues for public spending on its territory (Martinez-Vazquez & Timofeev, 2008). For the 2013 local elections, the average fiscal capacity per capita in the period 2014-16 is used; for the 2017 local elections, the average fiscal capacity per capita in the period 2017-18 is used.

[4] Of the 77 LGUs that have no women in the local council, 67% have a fiscal capacity per capita of less than HRK 2,000.

[5] Of the 20 LGUs with no women in the local council, 63% have a fiscal capacity per capita of less than HRK 2,500.

Graph 2: Women's political representation in five regions* (in %, average values)
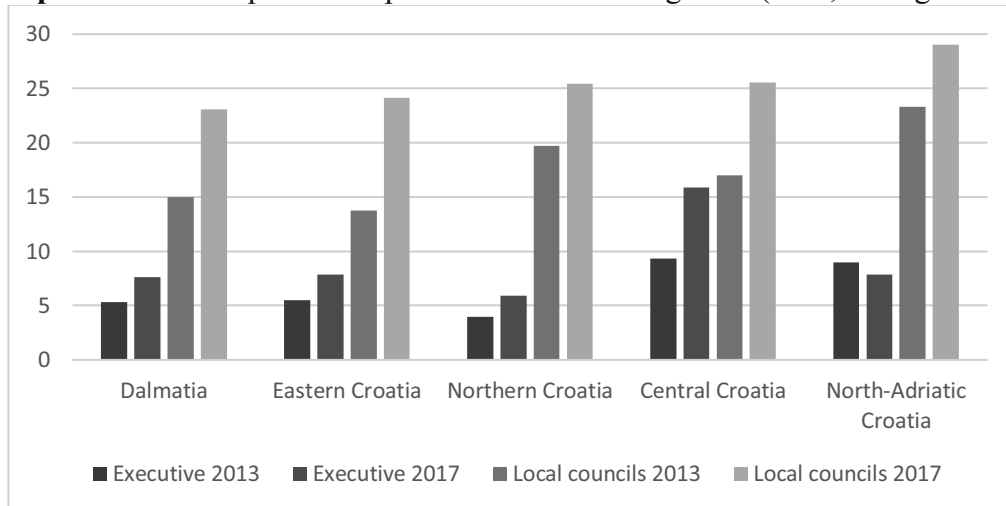
*Regions according to Tax Administration classification.
Source: Authors' calculations based on State Electoral Commission (2019).

Prior to the cluster analysis, a measure of local budget transparency in the 2014-2018 period is presented, by regions as classified by the Tax Administration (Graph 3). LGUs' budget transparency is measured annually by the Open Local Budget Index (OLBI), which is represented by the timely availability of five key budget documents (budget proposal, enacted budget, year-end report, mid-year report, and citizens budget), published on websites of municipalities and cities (Ott et al., 2019).

Graph 3: Budget transparency score for Croatian regions* (average values)
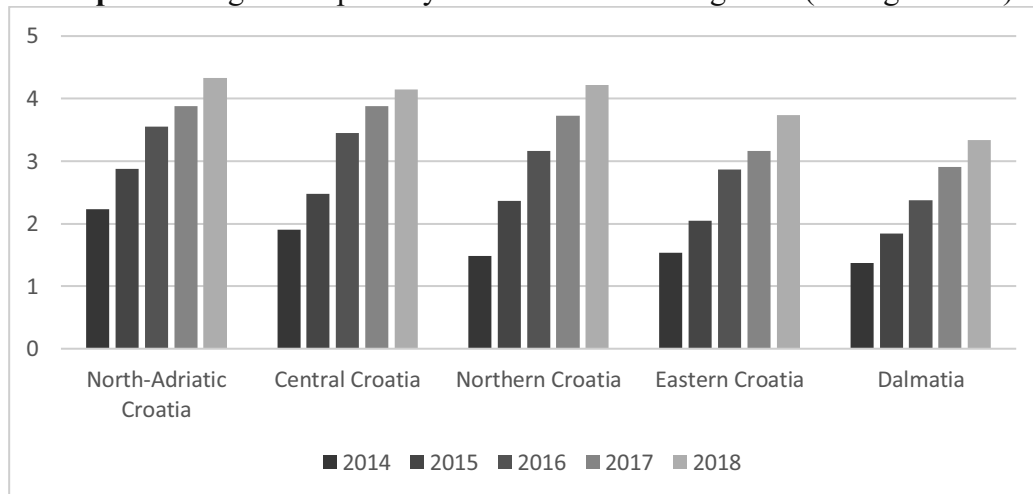
*Regions according to Tax Administration classification
Source: Authors' calculations based on Ott et al. (2019)

Graph 3 shows that in the observed period the average annual budget transparency of municipalities and cities has increased in all regions, the lowest being in Dalmatia and Eastern Croatia, and the highest in North-Adriatic Croatia.

4. Cluster analysis

The following cluster analysis was carried out on three separate samples: (i) all municipalities and cities in Eastern Croatia (127); (ii) all municipalities in Eastern Croatia (105); (iii) all cities

in Eastern Croatia (22). In addition to the WPR in local councils and local government budget transparency, four control variables have been added - LGUs' fiscal capacity per capita (pc), unemployment rate, voter turnout, and internet access[6] (Table 1). Unfortunately, the variable 'gender of the executive' is not included in the analysis because it does not contribute to clustering, given the low level of representation of women local executive positions (in the elections of 2013 slightly more than 5% and in those of 2017 fewer than 8% of mayoral contests were won by women).

Table 1: Definition of variables

Variable	Description	Source
women_council	Share of females in local councils; local elections 2013 and 2017 (in %).	State Electoral Commission (2019)
OLBI	Open Local Budget Index measured as the annual availability of five key local budget documents (budget proposal, enacted budget, year-end report, mid-year report, and citizens budget) on websites of cities and municipalities, ranging from 0 to 5.	Ott et al. (2019)
fiscal_cap_pc	Fiscal capacity pc, i.e. LGUs' own revenues pc, calculated as operating revenues minus all grants.	Ministry of Finance (2019). Pc values are based on population estimates from CBS (2020).
unempl_rate	Unemployment rate – Croatian Employment Service data on registered unemployed persons by LGU (in %).	Obtained on request from the Ministry of Regional Development and EU Funds (2019)
vot_turn	Percentage of voters in local elections 2013 and 2017.	State Electoral Commission (2019)
int_acc	Percentage of households with broadband internet access (data transmission speeds of 2 Mbit/s and more).	Croatian Regulatory Authority for Network Industries (2019)

In the 2013 local elections, in 20 LGUs women did not take a single seat, while in the 2017 elections the same happened with 4 municipalities - Bilje, Bizovac, Nova Kapela and Voćin (State Electoral Commission, 2019). Table 2 presents summary statistics for municipalities and cities of Eastern Croatia in the period 2014-2018. The municipality of Slavonski Šamac has the highest share of women in the local council (almost 50%). When it comes to budget transparency, the municipalities of Punitovci and Gorjani published no key budget documents in 2014-2018 period. Only two cities, Slavonski Brod and Osijek, published all five key budget documents. Although the mean of the variable *unempl_rate* is high; the lowest unemployment rate is in Klakar municipality (below 14%), and the highest is in Jagodnjak municipality (around 45%).

Table 2: Summary statistics – cities and municipalities

	women_council	OLBI	fiscal_cap_pc	unempl_rate	vot_turn	int_acc
Mean	17.91	2.67	1,647	24.15	52.08	36.69
Median	18.33	2.80	1,503	23.17	51.15	36.14
Min.	0.00	0.00	905	13.82	38.34	18.82
Max.	49.09	5.00	3,620	45.20	70.97	64.87

Note: Average values 2014-2018, except for the *women_council* and *vot_turn* variables for which average values are calculated based on the 2013 and 2017 local elections. *Source: Authors' calculation*

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[6] Fiscal capacity per capita was chosen because it reflects the financial strength of the LGU, the so-called supply factor, and voter turnout because it proxies the political engagement of the local population (demand factor). The unemployment rate reflects the general local economic situation and internet access is included because it is *online* local budgetary transparency that is measured.

If observed separately, cities are on average more transparent than municipalities with a higher proportion of women in local councils, higher fiscal capacity and internet access, and lower unemployment rate and voter turnout.[7]

Before performing the cluster analysis, it is necessary to standardize the values of the variables by using the z-score normalization of the original values of the variables, applying the following calculation for each variable:

$$z = \frac{x - \mu}{\sigma} \tag{1}$$

where:

z = standardized value

x = original value of the variable

μ = mean value

σ = standard deviation.

This paper applies K-means clustering, according to which n observations (127 LGUs of Eastern Croatia) are divided into k clusters, and each observation belongs to the cluster with the closest mean. Accordingly, this technique suggests a division into 3 clusters (Table 3).

Table 3: Cluster means, original values

	women_council	OLBI	fiscal_cap_pc	unempl_rate	vot_turn	int_acc
1	15.87 (-0.25)	1.91 (-0.73)	1,616.34 (-0.06)	30.39 (0.88)	54.94 (0.41)	31.01 (-0.78)
2	17.17 (-0.09)	2.97 (0.29)	1,381.87 (-0.51)	20.63 (-0.49)	51.15 (-0.13)	38.59 (0.26)
3	23.82 (0.71)	3.38 (0.68)	2,385.75 (1.43)	20.93 (-0.45)	48.86 (-0.46)	42.95 (0.86)

Note: standardized values in parentheses
Source: Authors' calculation

The mean values of the variables reported in Table 3 clearly indicate the association between women's political representation in local council and budget transparency in Eastern Croatia's LGUs. Three clusters are singled out:

- Cluster 1 indicates that the representation of women in the local council is lowest in LGUs with the lowest budget transparency. This relationship is accompanied by the highest unemployment rate, the lowest internet access, relatively low fiscal capacity per capita and the highest voter turnout.
- Cluster 3 shows that the highest budget transparency is in LGUs that have the highest number of women in the local council. The same LGUs also show the highest fiscal capacity per capita, lower unemployment rates, highest internet access and lowest voter turnout.
- Cluster 2 also follows the pattern of movement of the variables established in the previous clusters, i.e. the 'in between' values of the variables *women_council* and *OLBI*. Accordingly, interpretation of the results and conclusions can be drawn on the basis of all three established clusters.

Table 4: Cluster means municipalities

	women_council	OLBI	fiscal_cap_pc	unempl_rate	vot_turn	int_acc
1	15.76 (-0.13)	1.75 (-0.83)	1,456 (-0.19)	30.54 (0.75)	55.22 (0.33)	31.19 (-0.66)
2	17.39 (0.06)	3.02 (0.41)	1,353 (-0.41)	20.67 (-0.61)	51.31 (-0.24)	38.72 (0.54)
3	17.90 (0.12)	3.20 (0.59)	2,489 (1.92)	27.13 (0.28)	53.11 (0.02)	33.47 (-0.29)

Note: standardized values in parentheses
Source: Authors' calculation

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[7] Summary statistics for municipalities and cities separately are available upon request.

Results of the cluster analysis for 105 Eastern Croatia municipalities are shown in Table 4. Three clusters are suggested. Cluster 1 contains municipalities with the lowest representation of women in the municipal council and the lowest budget transparency. This relationship is accompanied by the lowest internet access, highest unemployment rate, relatively low fiscal capacity per capita and relatively high voter turnout. Cluster 3 consists of municipalities with the highest representation of women in the municipal council and highest budget transparency. This relationship is accompanied by highest fiscal capacity per capita, voter turnout, relatively low unemployment rate and relatively high internet access.

Table 5: Cluster means cities

	women_council	OLBI	fiscal_cap_pc	unempl_rate	vot_turn	int_acc
1	20.36 (-0.49)	2.47 (-0.48)	2,012 (-0.22)	20.80 (0.26)	50.84 (0.52)	38.60 (-0.56)
2	25.76 (0.59)	3.64 (0.57)	2,208 (0.26)	18.46 (-0.31)	44.49 (-0.63)	48.89 (0.68)

Note: standardized values in parentheses
Source: Authors' calculation

Table 5 shows cluster analysis for 25 Eastern Croatia cities with two clusters obtained. Cluster 1 singles out cities with the lowest representation of women in the city council and the lowest budget transparency. This relationship is accompanied by the lowest fiscal capacity per capita and internet access, as well as the highest unemployment rate and voter turnout. Cluster 2 contains cities with the highest representation of women in the city council and highest budget transparency. This relationship is accompanied by the highest fiscal capacity per capita and internet access, as well as the lowest voter turnout and unemployment rate.

The results suggest that greater women's representation in municipal and city councils is connected with higher LGU budget transparency. As argued by Beck (2001) and Fox & Schuhmann (1999), it seems that women bring a new perspective to political processes, putting more pressure on disclosing budget information (greater budget transparency). Women are more likely to resolve information asymmetries arising in agency dilemmas by embracing transparency, having their actions monitored, and collaborating and involving others in problem solving (Rosenthal, 2000).

The results of this cluster analysis are consistent with previous similar studies; De Araújo & Tejedo-Romero (2016), which observed the proportion of women in local councils, concluding that in Spanish municipalities, a greater representation of women in local political life contributes to greater budget transparency; De Araújo & Tejedo-Romero (2018) who found that greater representation of women's executives has a positive impact on local budget transparency in the Spanish municipalities; and Tavares & da Cruz (2017), who found that male mayors show lower levels of budget transparency than their female counterparts.

Table A in the Appendix presents the results of cluster analysis for municipalities and cities combined, while the tables that present municipalities and cities separately are available upon request.

5. Conclusion

This paper identifies the relationship between the level of local budget transparency and women's political representation in local councils in Eastern Croatia. Firstly, based on a descriptive analysis, observations are made for 555 Croatian municipalities and cities regarding women in local councils and local executives. In 2017 the number of women in both local councils and local executives slightly increased over the 2013 figures; women's political

representation is higher in cities than in municipalities; and women are more present in local councils than in local executives. Of the five tax administration regions, on average, the highest proportion of women in local executives is in Central Croatia, and the lowest in Northern Croatia; the highest number of women in local councils is in North-Adriatic Croatia, and the lowest in Dalmatia and Eastern Croatia. In the 2014-2018 period, LGUs of North-Adriatic Croatia show on average the highest and those of Dalmatia and Eastern Croatia the lowest levels of budget transparency.

In order to identify the connection between women's political representation and budget transparency in Eastern Croatia LGUs, a cluster analysis was conducted for three samples: (i) all 127 municipalities and cities, (ii) all 105 municipalities, and (iii) all 22 cities. Results point to greater budget transparency in LGUs with more women in local councils. This is further supported by high fiscal capacity per capita and internet access, and low unemployment rate and voter turnout.

There are two basic policy implications of this paper, the necessity of promoting (1) gender diversity in local political life, and (2) greater LGU budget transparency. According to cultural models that show gender differences - social role theory and status characteristics theory - both men and women on average have certain characteristics that direct them towards particular types of roles and behaviours. Given the theoretical underpinnings, previous empirical results, and the results obtained in this paper, all parties involved should promote greater female inclusiveness in local councils and local executives. This implies that the central government should consider promoting gender policies to motivate women to run for local councils and local executives; or even introducing female quotas for local councils. LGUs also need to think of encouraging women to compete for local councils and local executives. Finally, women themselves need to become more active and involved in local political life. Also, the central government, counties, and associations of counties, cities and municipalities should continuously promote higher levels of local budget transparency, in order to create realistic opportunities for effective citizen participation in the local budget process. Government should start with making it mandatory to publish all five key local budget documents (budget proposal, enacted budget, citizens' budget, mid-year report, and year-end report). At the same time, all stakeholders, including civil society, the media and experts, as well as citizens themselves should work to improve the budget literacy of all citizens. By improving budget transparency and involving citizens in the local budget process, local politicians have the opportunity to restore citizens' trust and improve the allocative efficiency of local budgets. Transparency and participation channels can increase citizens' sense of belonging and ownership of budgetary resources (see e.g. Ott, Mačkić & Prijaković, 2019).

Future studies may build on the present research by conducting cluster analysis for other regions in Croatia, by leveraging the existing five-year database and conducting a panel regression analysis for Croatian LGUs, exploring in more detail how women's political representation affects local budget transparency.

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Appendix

Table A. Results of the cluster analysis – municipalities and cities, average 2014-2018

local unit	women_council	OLBI	fiscal_capacity_pc	unempl_rate	vot_turn	int_acc
Cluster 1						
Bošnjaci	13.85	1.0	1,424	30.31	51.57	39.62
Crnac	10.00	4.0	2,643	28.49	65.21	27.74
Čađavica	18.18	2.2	1,954	31.20	63.68	27.28
Čaglin	22.09	2.8	1,251	19.34	57.84	21.84
Čeminac	18.57	0.8	2,986	22.97	65.03	37.41
Darda	13.37	1.2	1,622	30.58	50.85	37.13
Donja Motičina	16.36	2.0	1,290	30.76	58.03	38.95
Dragalić	20.91	2.8	1,935	30.22	45.00	28.61
Draž	21.54	2.4	1,815	34.09	51.15	31.58
Drenovci	16.00	3.0	1,913	34.11	41.71	32.63
Drenje	6.15	1.0	1,025	29.63	50.28	20.79
Đurđenovac	28.00	1.6	1,254	31.24	54.97	31.79
Feričanci	14.54	2.6	1,633	27.44	54.93	35.56
Gorjani	14.54	0.0	1,669	24.49	57.11	28.04
Gornji Bogićevci	30.91	1.8	1,315	40.90	46.49	28.57
Gradina	8.57	2.2	1,468	32.84	51.76	30.41
Gradište	26.15	1.0	1,170	25.75	38.34	30.98
Gunja	6.15	2.0	1,162	43.07	47.45	30.88
Jagodnjak	14.29	2.0	1,457	45.20	52.59	18.82
Levanjska Varoš	33.03	1.8	1,195	39.34	67.60	22.97
Markušica	27.03	2.2	1,086	30.75	41.58	30.49
Mikleuš	13.33	2.8	1,173	30.82	52.50	35.60
Nova Bukovica	15.45	2.6	2,486	30.91	50.90	30.61
Nova Kapela	4.61	1.8	1,401	23.17	61.88	36.72
Okučani	30.66	1.4	1,231	41.17	48.19	22.29
Otok	20.00	1.0	2,540	24.22	56.26	26.50
Petlovac	8.63	3.2	1,790	31.92	67.24	32.79

local unit	women_council	OLBI	fiscal_capacity_pc	unempl_rate	vot_turn	int_acc
Podcrkavlje	7.69	1.8	1,197	18.26	62.20	31.09
Podgorač	24.51	3.0	1,686	40.12	57.58	29.37
Podravska Moslavina	3.64	0.8	1,391	25.59	50.50	31.51
Popovac	12.73	3.0	2,558	37.49	55.41	28.98
Privlaka	7.69	0.6	1,722	21.80	50.74	38.40
Punitovci	17.57	0.0	1,579	24.41	70.97	27.30
Satnica Đakovačka	12.73	3.0	1,366	25.64	59.69	32.06
Sopje	11.66	1.6	1,717	32.72	57.85	28.12
Stara Gradiška	17.27	3.8	1,798	29.39	49.64	28.84
Šodolovci	27.27	3.4	1,503	34.85	49.20	31.46
Tordinci	9.09	0.6	1,473	19.79	65.61	38.16
Trnava	34.54	1.2	1,186	28.62	53.24	30.93
Trpinja	8.75	1.8	1,564	25.73	56.05	39.86
Viljevo	17.27	2.0	1,541	30.27	50.45	34.53
Viškovci	3.64	1.8	1,322	24.85	50.93	36.09
Voćin	5.00	1.6	1,917	40.20	57.38	31.93
Vrbje	7.27	1.2	1,116	37.15	55.02	28.28
Zdenci	12.73	1.4	2,217	25.95	69.75	31.78
Cluster 2						
Andrijaševci	13.85	4.0	1,392	19.25	50.17	42.75
Antunovac	21.54	3.6	1,711	17.45	63.09	48.47
Babina Greda	26.15	3.2	1,143	28.88	56.32	38.01
Bebrina	10.77	3.6	1,071	18.32	50.70	33.29
Bilje	8.00	2.2	1,944	19.02	55.77	46.79
Bizovac	0.00	4.2	1,629	23.18	53.22	40.40
Bogdanovci	20.00	2.2	1,395	27.01	51.84	39.46
Borovo	21.25	2.4	1,016	26.78	42.84	47.08
Brestovac	7.14	2.8	1,300	18.18	50.74	29.44
Brodski Stupnik	13.84	3.8	1,238	14.04	55.94	34.11
Bukovlje	21.54	3.4	1,145	14.79	51.52	31.74
Cerna	18.46	3.2	1,431	22.17	57.97	43.12
Cernik	26.16	4.2	1,363	27.42	40.17	33.90
Čačinci	18.57	3.0	1,237	22.98	51.36	36.30
Čepin	20.00	1.6	1,634	16.74	39.77	50.42
Davor	23.08	1.4	1,189	25.66	49.70	46.52
Donji Andrijevci	13.84	3.0	1,255	16.25	47.41	29.10
Đakovo	19.05	3.0	1,721	19.41	46.37	44.69
Erdut	15.50	3.0	1,780	25.86	44.50	32.34
Garčin	20.00	3.0	1,374	17.60	46.83	28.18
Gornja Vrba	9.23	3.4	1,476	15.62	56.02	40.81
Gundinci	7.27	3.4	1,093	17.66	61.90	36.29
Ilok	25.59	2.2	1,534	19.13	51.88	37.05
Ivankovo	20.00	2.4	1,269	19.53	48.71	44.18
Jakšić	18.46	3.0	1,200	14.86	54.16	35.95
Jarmina	18.18	4.2	1,245	18.02	52.04	40.38
Kaptol	7.69	3.0	1,220	17.95	45.28	31.55
Klakar	7.27	3.6	1,282	13.82	60.09	45.98
Koška	22.86	3.4	1,549	29.68	44.88	35.32
Kutjevo	21.33	1.4	1,427	15.85	50.09	34.50
Lukač	17.14	4.2	1,636	26.96	51.02	32.65
Marijanci	16.36	2.0	1,737	22.35	50.52	36.95
Negoslavci	29.09	1.6	905	23.35	38.54	39.83
Nuštar	2.67	2.6	1,233	19.89	57.79	46.82
Oprisavci	15.38	3.0	1,311	14.28	57.85	41.54
Oriovac	13.33	2.0	1,323	14.66	50.77	40.06
Petrijevci	21.54	3.6	1,695	18.99	51.28	43.33
Pitomača	17.65	4.2	1,563	21.00	44.65	43.02
Pleternica	18.82	2.2	1,263	17.80	52.87	35.45
Rešetari	26.16	2.4	1,153	27.07	50.44	40.08
Semeljci	27.69	3.0	1,519	26.52	47.69	34.70
Sibinj	14.67	3.0	1,184	14.62	48.56	42.63
Sikirevci	7.27	2.4	1,062	16.87	56.20	42.07
Slavonski Šamac	49.09	2.8	1,058	19.46	45.06	34.21
Stari Jankovci	6.15	3.6	2,045	22.80	46.92	36.13
Stari Mikanovci	27.69	2.8	1,325	20.94	64.29	39.53
Staro Petrovo Selo	12.00	3.0	1,376	28.98	44.63	40.29
Strizivojna	21.54	1.6	960	18.12	46.65	39.62
Suhopolje	13.33	3.0	1,459	29.42	46.49	35.05
Špišić Bukovica	20.00	1.8	1,155	25.61	46.43	38.98
Štitar	20.00	3.0	1,003	26.93	48.44	41.65
Tompojevci	18.33	4.0	2,029	24.11	57.88	34.57

local unit	women_council	OLBI	fiscal_capacity_pc	unempl_rate	vot_turn	int_acc
Valpovo	10.59	2.0	1,714	22.19	54.06	48.47
Velika	18.66	4.2	1,438	16.74	48.70	36.14
Velika Kopanica	32.31	1.8	1,393	15.75	53.24	34.96
Vladislavci	6.67	4.0	1,663	23.07	60.93	36.67
Vođinci	3.64	2.8	1,249	21.01	55.85	37.01
Vrpolje	21.54	3.4	1,283	15.84	52.09	32.79
Vuka	7.27	4.4	1,535	18.94	57.00	33.65
Cluster 3						
Beli Manastir	23.34	1.6	2,335	28.85	44.85	39.77
Belišće	21.17	2.0	2,425	26.37	50.40	46.59
Donji Miholjac	21.34	2.8	1,718	18.53	40.95	47.04
Ernestinovo	28.33	3.2	1,897	19.37	61.47	45.83
Kneževi Vinogradi	30.77	3.4	2,153	31.43	50.40	36.45
Lipik	23.92	3.8	2,375	16.90	49.91	32.00
Lovas	25.45	4.0	2,746	20.05	58.59	36.79
Magadenovac	12.73	2.4	3,620	26.66	53.98	29.13
Našice	20.00	3.4	2,237	24.49	49.50	45.58
Nijemci	32.14	3.8	2,806	22.99	56.57	32.77
Nova Gradiška	28.24	3.0	2,252	22.97	42.59	44.26
Orahovica	23.00	4.0	2,355	17.53	60.09	39.84
Osijek	21.98	5.0	3,004	15.65	43.53	64.87
Pakrac	17.50	3.0	2,222	16.88	43.77	32.80
Požega	31.43	3.2	2,123	13.98	53.14	44.18
Slatina	29.80	3.2	1,912	23.82	41.58	46.08
Slavonski Brod	32.80	5.0	2,102	14.32	40.80	48.31
Tovarnik	16.59	3.8	2,827	17.56	57.10	43.03
Vinkovci	25.60	2.0	2,148	15.99	46.99	50.64
Virovitica	25.71	4.0	2,406	17.55	49.72	53.06
Vrbanja	15.38	3.0	2,789	27.80	42.31	38.36
Vukovar	20.70	4.0	2,087	19.63	46.39	43.14
Županja	20.00	4.2	2,332	22.15	39.27	47.30

A scientific paper

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AGGREGATE LEVEL OF FINANCIAL REPORTING MANIPULATIONS IN COUNTRIES OF SOUTH-EAST EUROPE

ABSTRACT

Even though financial statements are one of the main sources of information for the process of decision making, managers may misuse them for maximizing their own benefits at the expense of other interest groups. Financial reporting manipulations have been subject of interest for many researchers. However, prior studies were mainly conduced in developed countries, unlike post-communists countries of South-east Europe. The aim of this paper is to analyse differences in the level of financial reporting manipulation between Southeast European countries. We assume that differences in the level of financial reporting manipulation between Southeast European countries can be explained by different regulation and taxation systems. To conduct this investigation, large and very large companies from Bosnia and Herzegovina, Croatia, Montenegro, Serbia, and Slovenia have been selected. Necessary data for empirical research is collected from the AMADEUS database. The study was conducted on a sample of 4,646 companies from 2014 to 2015. We focus on the three measures: avoidance of small losses, smoothing of operating earnings vis-a-vis cash flow and the correlation between accounting accruals and cash flow from operations to identify financial reporting manipulation. Descriptive statistics are used to summarize date and to analyze results. Our findings are consistent with stated predictions and indicate that there is a difference in the level of financial reporting manipulation between Southeast European countries. These findings contribute to the current debate on the problem of accounting manipulation.

Key words: *Financial reporting quality, Financial reporting manipulations, Southeast European countries.*

1. Introduction

Financial reporting quality represents the precision with which financial reporting communicates information about the company's operations (Biddle et al., 2009). Despite the fact that accounting regulation attempts to ensure that financial reporting consistently has high quality, growing body of accounting literature concludes that managers may misuse financial reporting process in order to maximize their own benefits at the expense of other interest groups. Communications between companies and shareholders may be deliberately distorted by the activities of financial statement preparers (managers) who wish to alter the

content of the messages being transmitted, and type of distortion is often referred to as 'earnings management'(Gowthorpe and Amat, 2005). Financial reporting manipulations arise from the presence of an agency problem, more precisely if each party to the contract acts to increase its own utility and occur because of the information asymmetry between managers and shareholders. Financial reporting manipulations represent management discretionary decisions in order to make accounting choices that may affect the transfer of wealth between companies, between the company and society, fund providers, and, finally, between the company and managers (Stolowy and Breton, 2004).

In corporate financial reporting, earnings are the single most important information from financial statements that determine the economic value of the firm and the allocation of resources in the capital market (Noor et al., 2015). Thus, earnings are usually considered to be the most frequent target of accounting manipulations (Aljinović Barać et al., 2017). Namely, managers' bonuses are often related to the reported earnings and there are many incentives and pressures that increase the risk of manipulative behaviour related to reported earnings. Financial pressures, a decline in financial performance and high expectations for financial performance growth are often cited as motives for earnings management. According to Healy and Wahlen (1999) financial reporting manipulation occurs when managers use judgment in financial reporting to alter financial reports in order to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on the reported accounting practices. Because financial reporting misconduct may involve the manipulation of financial statements by a variety of economic agents in capital markets under a particular legal regime (Amiram et al., 2018), we believe that differences in the level of financial reporting manipulation between Southeast European countries exist and can be explained by different regulation and taxation systems.

Financial reporting manipulations have been subject of interest for many researchers. Research on financial reporting quality has grown dramatically over the past two decades (De Fond, 2010). Studies were mainly conduced in developed countries, unlike post-communists countries of South-east Europe. The aim of this paper is to analyse differences in the level of financial reporting manipulation between Southeast European countries. In order to conduct the empirical analysis, large and very large companies from Bosnia and Herzegovina, Croatia, Montenegro, Serbia, and Slovenia have been selected. Necessary data for empirical research is collected from the AMADEUS BvD database. The study was conducted on a sample of 4,646 companies from 2014 to 2015. Following Leuz et al. (2003) and Burgstahler et al. (2006) research methodology, we use three measures to identify financial reporting manipulations: avoidance of small losses, smoothing of operating earnings vis-a-vis cash flow and the correlation between accounting accruals and cash flow from operations. At a descriptive level, we find large differences in the level of financial reporting manipulations between Southeast European countries. Our descriptive evidence suggests that companies in countries with different regulation and taxation systems have differences in the level of financial reporting manipulation. These findings contribute to the current debate on the problem of accounting manipulations. Understanding the problem of accounting manipulation is important not only to owners of the firm, but also to accounting regulators and to other stakeholders.

The remainder of the paper is organized as follows. In Section 2 theoretical background and literature review is summarized. In section 3 research design and research methodology are explained. Research results are elaborated in Section 4 and the last section outlines the concluding remarks.

2. Financial reporting manipulation literature review

A large body of existing studies in the literature have examined various aspects of financial reporting manipulations. Our empirical research is based on aggregate earnings management measures between different countries based on Leuz et al. (2003) methodology. Leuz et al. (2003) examine systematic differences in earnings management across 31 countries. Their findings show that earnings management varies systematically across countries with different institutional characteristics. Their analysis suggests that economies with relatively dispersed ownership, strong investor protection, and large stock markets exhibit lower levels of earnings management in comparison to countries with relatively concentrated ownership, weak investor protection, and less developed stock markets. Beside Leuz et al. (2003) research, there are numerous other studies analysing different aspects of accounting manipulations and the most important papers are described in the following text.

Ball and Shivakumar (2005) point out that financial statements are economic goods and their properties, including earnings quality, are determined primarily by the economic uses to which they are put. Their interpretation is that lower earnings quality in private companies does not imply the failure of accounting or auditing standards because the difference in average earnings quality between public and private companies reflects differences in demand for financial reporting between private and public companies, and is that it is not a failure in supply. Agrawal and Chadha (2005) examine whether certain corporate governance mechanisms are related to the probability of a company restating its earnings and they find that the probability of restatement is higher in companies in which the chief executive officer belongs to the founding family in regards to companies whose boards or audit committees have an independent director with financial expertise. Farber (2005) analyses the association between the credibility of the financial reporting system and the quality of governance mechanisms and finds that fraud companies have poor governance, fewer numbers and percentages of outside board members, fewer audit committee meetings, fewer financial experts on the audit committee, a smaller percentage of Big 4 auditing firms, and a higher percentage of CEOs who are also chairmen of the board of directors.

Van Tendeloo and Vanstraelen (2005) address the question whether voluntary adoption of International Financial Reporting Standards (IFRS) is associated with lower earnings management and indicate that in general, adopters of IFRS cannot be associated with lower earnings management. Burgstahler et al. (2006) examine how institutional factors shape companies' incentives to report earnings and provide evidence that private companies exhibit higher levels of earnings management and that strong legal systems are associated with less earnings management in private and public companies. Barth et al. (2008) examine whether application of International Accounting Standards (IAS) is associated with higher accounting quality and find that companies applying IAS from 21 countries generally evidence less earnings management and that the accounting amounts of companies that apply IAS are of higher quality than those of non-U.S. companies that do not. Van Tendeloo and Vanstraelen (2008) provide evidence that privately held companies engage less in earnings management when they have a Big 4 auditor compared to a non-Big 4 auditor only in high tax alignment countries, where financial statements are more scrutinized by tax authorities and the probability that an audit failure is detected is higher.

Dechow et al. (2011) contribute to the financial reporting manipulation literature by showing that the overstatement of revenues, misstatement of expenses, and capitalizing costs are the most frequent types of misstatements. Zang (2012) shows that managers' trade-off decisions are influenced by the costs and timing of earnings and indicates that companies use more accrual-based earnings management and less real activities manipulation because real activities manipulation are more costly for them. In contrast with the results in Barth et al.

(2008), Ahmed et al. (2013) find evidence of an increase in income smoothing for IFRS companies relative to benchmark companies after mandatory IFRS adoption and suggest that their inference of improvement in accounting quality cannot be generalized to mandatory adopters. Using a database that contains accounting data for a large sample of U.S. private companies, Hope et al. (2013) analyse financial reporting quality of U.S. private versus public companies and find that in general, public companies have higher accrual quality and are more conservative. Aljinović Barać et al. (2017) examine motives, targets and techniques of accounting manipulations and show that manipulations are principally oriented towards three groups of users that are perceived to be most important potential victims of manipulations such as creditors, tax authorities and suppliers with the intention to hide bad performance, get better terms of crediting and minimize fiscal and political costs. They also find that hiding bad performance, getting better terms of crediting by banks and minimizing fiscal and political costs are perceived as main motives for manipulative actions; earnings benchmarks and leverage levels are perceived to be the most common targeted manipulation measures; write-off of accounts receivables, inventory measurement policy, depreciation policy and provisions are perceived to be the most frequent (i.e. riskier) areas of accounting manipulations. Jackson et al. (2017) indicate that the degree of earnings co-movements with the industry is in fact a causal factor in managers decisions to bias earnings reports. Gao and Zhang (2019) show that one manager manipulates more if he believes that reports of peer companies are more likely to be manipulated. According to them, as a result, one company's investment in internal controls has a positive externality on peer companies. It reduces its own manager's manipulation, which, in turn, mitigates the manipulation pressure on managers at peer companies.

Summarizing the results of the studies presented, it can be concluded that financial reporting manipulations have been subject of interest for many researchers. However, prior studies were mainly conduced in developed countries, unlike post-communists countries of Southeast Europe. This study analyses differences in the level of financial reporting manipulation between Southeast European countries and provides new perspective on accounting manipulation in a specific institutional setting.

3. Research design and research methodology

Empirical part of the research is conducted on a sample of active, large and very large companies from Bosnia and Herzegovina, Croatia, Montenegro, Serbia and Slovenia available in BvD Amadeus database in period 2014-2015. The selected sample consisted of total of 5,060 companies. In data cleaning process, 414 companies were excluded from the sample due to missing data. Therefore, a final sample consists of 4,646 companies.

Table 1 shows the distribution of companies from the sample by industry in selected countries. The table shows that the most of companies in the sample are engaged in manufacturing, wholesale and retail trade.

Table 1: Distribution of companies by industry in selected countries

Industry	Total	Bosnia and Herzegovina	Croatia	Montenegro	Serbia	Slovenia
Agriculture, forestry and fishing	158	16	39	4	88	11
Mining and quarrying	40	13	5	4	15	3
Manufacturing	1374	140	371	25	495	343
Electricity, gas, steam and air conditioning supply	103	17	39	2	16	29
Water supply; sewerage, waste	216	47	72	7	67	23

Industry	Total	Bosnia and Herzegovina	Croatia	Montenegro	Serbia	Slovenia
management and remediation activities						
Construction	343	37	100	19	128	59
Wholesale and retail trade; repair of motor vehicles and motorcycles	1238	137	386	76	365	274
Transportation and storage	245	24	78	20	68	55
Accommodation and food service activities	171	14	80	26	33	18
Information and communication	124	4	43	7	40	30
Financial and insurance activities	58	2	10	9	16	21
Real estate activities	121	4	64	14	16	23
Professional, scientific and technical activities	205	33	74	10	48	40
Administrative and support service activities	130	5	53	5	42	25
Public administration and defence; compulsory social security	3	2	1	0	0	0
Education	2	0	0	1	1	0
Human health and social work activities	36	21	7	3	2	3
Arts, entertainment and recreation	45	7	16	8	11	3
Other service activities	17	3	7	1	5	1
No data available	17	12	1	4	0	0
In total	4646	538	1446	245	1456	961

Source: author's calculations

In accordance with previous studies (Leuz et al., 2003; Burgstahler et al.,2006) we assume that differences in the level of financial reporting manipulation can be explained by different regulation and taxation systems. Therefore, the main research hypothesis can be expressed as: *There is a difference in the level of profit manipulation between Southeast European countries.*

In order to empirically analyse differences in the level of financial reporting manipulations between Southeast European countries we use a three measures of earnings managements according to Leuz et. (2003) and Burgstahler et al. (2006) methodology: avoidance of small losses; smoothing of operating earnings vis-a-vis cash flow; and the correlation between accounting accruals and cash flow from operations. Proxy for smoothing of operating earnings vis-a-vis cash flow is the country's median ratio of the firm-level standard deviations of operating income and operating cash flow (EM1). The cash flow from operations is equal to operating income minus accruals, where accruals are calculated as: (Δtotal current assets - Δcash) - (Δtotal current liabilities- Δshort-term debt - Δtaxes payable) - depreciation expense (Leuz et al., 2003, 509). Proxy for correlation between accounting accruals and cash flow from operations is the country's Spearman correlation of the change in accruals and the change in cash flow from operations. EM2 is the country's median ratio of the absolute value of accruals and the absolute value of the cash flow from operations (Leuz et al., 2003, 514). Proxy for avoidance of small losses is the ratio of small profits to small losses (EM3). "EM3 is the number of all profits divided by the number of small losses, and a firm-year observation is classified as small profit (small loss) if positive (negative) net income falls within rang od 1 percent of lagged total assets" (Burgstahler et al., 2006, 995).

Descriptive analysis is used to provide information regarding measures of central tendency and measures of variability for each variable in the research model. The main variables used

in the analysis are: EBIT - earnings before interest and taxes; ACC – total accruals and CFO - cash flow from operating activities.

EBIT is calculated as earnings before interest and taxes in 2015 divided by total assets in 2014. Table 2 provides descriptive statistics for variable EBIT.

Table 2: Descriptive statistics for variable EBIT/total assets

	Bosnia and Herzegovina	Croatia	Montenegro	Serbia	Slovenia
Average	0,2128	0,2709	0,0059	0,4677	0,0770
Median	0,0134	0,0390	0,0054	0,0451	0,0530
Std. Deviation	3,7214	7,1024	0,3741	14,5571	0,1391
Minimum	-0,3951	-1,4494	-5,1687	-1,0411	-0,7746
Maximum	86,2879	268,7321	1,5980	555,2411	2,5554
Upper quartile	0,0806	0,0947	0,0430	0,1112	0,1079
Lower quartile	-0,0160	0,0025	-0,0223	-0,0014	0,0216
Number of companies	538	1446	245	1456	961

Source: author's calculations

Table 2 shows that the average and median value of EBIT are positive in all countries. Both values are the lowest in Montenegro, with the highest average in Serbia and the median in Slovenia. The standard deviation from EBIT average is the largest in Serbia. The upper quartile is the largest in Serbia, which means that 75% of companies in Serbia have an average EBIT of 0.11 or less, and the smallest lower quartile is in Montenegro, which means that 25% of the sample companies have EBIT of -0.02 or less. Therefore, according to these values, the highest EBIT is achieved by companies in Serbia and Slovenia, and the lowest in Montenegro.

Variable ACC (total acccruals) is calculated as:

ACC = (Δtotal current assets) - Δcash - (Δtotal current liabilities- Δshort-term debt - Δtaxes payable) - depreciation expense.   (1)

Variable ACC is calculated for year 2015 and scaled with total assets from previous year. Table 3 provides descriptive statistics for variable ACC.

Table 3: Descriptive statistics for variable ACC/total assets

	Bosnia and Herzegovina	Croatia	Montenegro	Serbia	Slovenia
Average	-0,6196	-0,1029	0,2988	0,3572	-0,0403
Median	-0,0191	-0,0421	-0,0229	-0,0278	-0,0430
Std. Deviation	13,1734	8,0973	5,1322	10,6307	0,1459
Minimum	-305,4539	-250,0508	-1,5495	-2,7798	-0,9097
Maximum	1,0440	177,6402	80,3774	396,6115	1,3503
Upper quartile	0,0166	0,0116	0,0037	0,0369	0,0117
Lower quartile	-0,0723	-0,1065	-0,0807	-0,0940	-0,1011
Number of companies	538	1446	245	1456	961

Source: author's calculations

Lower absolute values of ACC are usually considered to imply higher financial reporting quality. Accruals are managers' subjective estimates of future outcomes and therefore they are inherently more uncertain than cash flows (Aljinović Barać et al., 2011.). Also, Jones et al. (2008) find that total accruals are likely to be associated with manipulative actions and fraud. Table 3 shows that both the average and the median are negative for most countries.

According to the average values of ACC's share in total assets, it turns out that Slovenia has the best financial reporting quality and Bosnia and Herzegovina the worst. On the other hand, the median value for Bosnia and Herzegovina has the lowest absolute value implying high financial reporting quality.

Variable CFO (cash flow from operating activities) represents the difference between all items of cash receipts and cash expenses from regular business activities. However, this data was not available in Amadeus BvD base, so it was calculated as net income minus total accruals and divided by total assets in previous year.

Table 4 provides descriptive statistics for variable CFO.

Table 4: Descriptive statistics for variable CFO/total assets

	Bosnia and Herzegovina	Croatia	Montenegro	Serbia	Slovenia
Average	0,7752	0,2603	-0,3101	0,0216	0,1024
Median	0,0337	0,0690	0,0229	0,0570	0,0874
Std. Deviation	15,7644	11,1150	5,5477	3,1299	0,1854
Minimum	-0,9815	-158,5942	-86,8932	-64,6232	-1,2900
Maximum	365,5043	391,0226	1,4969	64,6332	3,0352
Upper quartile	0,1104	0,1575	0,0869	0,1400	0,1634
Lower quartile	-0,0094	0,0098	-0,0122	-0,0111	0,0307
Number of companies	538	1446	245	1456	961

Source: author's calculations

Table 4 shows that the average share of CFOs in total assets is the highest in Bosnia and Herzegovina and the lowest in Montenegro. However, Bosnia and Herzegovina also has the largest standard deviation from the average value, so the average is not a representative measure. The median is highest in Slovenia, and the lowest again in Montenegro.

4. Research results

After descriptive analysis, financial reporting manipulations indicators are calculated (EM1, EM2 and EM3).

The EM1 indicator is calculated as the ratio of the standard deviation of EBIT and the cash flow from operating activities (both scaled with total assets from the previous year). First, EBIT and CFO's share of total assets are calculated for each company in the sample and then we computed standard deviations on a country level. According to Leuz et al. (2003) smaller value of EM 1 indicator implies less accounting manipulations, and vice versa. Namely, a low value of this measure, ceteris paribus, indicates managers' exercise of accounting discretion to smooth reported earnings (Leuz et al., 2003). Table 5 shows values of EM1 indicator across countries. Results indicate that the level of financial reporting quality is the highest in Serbia (i.e. the lowest level of accounting manipulations).

Table 5: EM1 indicators by country

EM 1				
Bosnia and Herzegovina	Croatia	Montenegro	Serbia	Slovenia
0,2361	0,6390	0,0674	5,2378	0,7503

Source: author's calculations

Beside manipulating by smoothing performance measures, managers can also overstate reported earnings to achieve certain earnings targets or report an extraordinary performance

(Leuz et al., 2003). The EM2 indicator is calculated as the median ratio of the absolute values of the ACC and the absolute values of the CFO. First, the absolute values for each company are calculated and then the median ratio of these two variables for each country separately. According to Leuz et al. (2003) methodology, the higher value of EM2 indicator implies more accounting manipulations, and vice versa. Table 6 shows that accounting manipulations are the least in Slovenia and the largest in Montenegro.

Table 6: EM2 indicators by country

EM 3				
Bosnia and Herzegovina	Croatia	Montenegro	Serbia	Slovenia
0,8486	0,8700	0,9688	0,8241	0,7202

Source: author's calculations

Managers often use their discretion to avoid reporting small losses (Degeorge et al., 1999, Burgstahler and Dichev, 1997). Namely, small losses are likely to lie within the bounds of managers' discretion, so managers can avoid them at relatively low cost. Therefore, in each country, the ratio of small reported profits to small reported losses reflects the extent to which managers exercise discretion to avoid reporting losses. (Leuz et al., 2003). The EM3 indicator is calculated as the ratio of the number of companies with small gains and small losses for each country. First, we divided net income with total assets from previous year for each company. If the calculated value falls into the range [0, 0.1] then it is labelled as a small gain, and if it is in the range [-0.01, 0] then it is a small loss. The higher value of EM3 indicator implies more accounting manipulations, and vice versa (Leuz et al., 2003). Table 7 shows that the least accounting manipulations are in Bosnia and Herzegovina, and the most in Slovenia.

Table 7: EM3 indicators by country

EM 4				
Bosnia and Herzegovina	Croatia	Montenegro	Serbia	Slovenia
0,9623	3,4203	1,0370	1,2105	3,8929

Source: author's calculations

To summarize, the results of the empirical analysis are not consistent for each accounting manipulations indicator and indicate different conclusion for each country. Namely, according to EM1 indicator, Serbian companies have the highest financial reporting quality (i.e. the lowest level of accounting manipulations). Indicator EM2 implies that companies from Slovenia have the highest level of financial reporting quality and according to EM3 companies from Bosnia and Herzegovina have the highest reporting quality. Beside that, results also show significant differences in values of accounting manipulations indicators across countries in south-east Europe, as we predicted.

Although results should contribute to the existing academic literature, there are few major limitations of the study. First, the paper remains mainly descriptive because it examines differences in the level of financial reporting manipulation between Southeast European countries, but does not attempt to identify the reasons which cause those differences. Second, due to the fact that each indicator is calculated on a country level we are not able to statistically test differences between countries. Even with these considerations in mind, valuable and useful information about differences in accounting manipulations between countries in south-east Europe are provided.

5. Conclusion

This study extends the existing literature on financial reporting manipulation in several ways. First, it highlights the importance of institutional factors and their impact on financial reporting quality. Second, prior studies were mainly conduced in developed countries, unlike post-communists countries of South-east Europe.

To examine differences in the level of financial reporting manipulations between Southeast European countries we used the data from the Bureau Van Dijk Amadeus database. We focus on three measures of accounting manipulations: avoidance of small losses; smoothing of operating earnings vis-a-vis cash flow; and the magnitude of accruals; as dimensions of financial reporting manipulations. We find for large and very large companies from Bosnia and Herzegovina, Croatia, Montenegro, Serbia, and Slovenia that companies in countries with different regulation and taxation systems have differences in the level of financial reporting manipulations. These findings contribute to the current debate on the problem of accounting manipulations. We note that our study has several limitations. Perhaps most importantly, our study remains mainly descriptive, so the future research should analyse causes that make the differences in financial reporting manipulations between countries with different regulation.

Finally, our analysis provides useful insights to researchers, regulators, and other financial statement users regarding the financial reporting quality. By better understanding financial reporting quality, financial statement users should be in a better position to identify the precision with which financial reporting system communicates information about the company's operations.

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CROATIAN BANKING AND INSURANCE INDUSTRY: OVERVIEW OF COST EFFICIENCY PERFORMANCE AFTER ACCESSION TO THE EUROPEAN UNION

ABSTRACT

This paper analyses Croatian banking and insurance industry cost efficiency in the period just before and after Croatia's accession to the European Union. The objective of this research is to determine the existence of interdependence between the results of different efficiency measurement approaches and in various financial industry areas. For that purpose, efficiency is measured by using Data Envelopment Analysis (DEA) methodology. DEA is a specific nonparametric linear programming methodology used for testing the efficiency in numerous areas, including the financial sector. In this research, the main focus is on the banking and insurance sectors as holders of 75% of the total assets of the Croatian financial industry. In that sense, the main purpose of this research is to obtain a more precise conclusion about the efficiency of the Croatian financial industry in the period following the accession of the Republic of Croatia to the European Union in 2013 and determine how this fact consequently impacted said efficiency. For banks, expenses as input data and income as output data are used; for insurance companies, claims incurred, net operating expenses, and investment costs are used as input data in addition to earned premiums and investment income data as output data. The analysis is conducted on pooled data for the period from 2012 to 2018 on the sample of Croatian banks and insurance companies operating within it. However, the period observed was somewhat challenging in doing business and business performance, as well as in many other ways, due to the fact that Croatia experienced a prolonged recession in the period following the onset of the latest financial crisis of 2008. Consequently, research results obtained herein could be a valuable source of information for better understanding of business performance in the financial sector in times of dynamic and unstable financial or macroeconomic environment, simultaneously with changing legal and other conditions.

Key words: *Croatia, banking industry, insurance industry, efficiency, data envelopment analysis*

1. Introduction

Financial institutions, in general, are continuously seeking to perform more efficiently and, for that purpose, are constantly trying to improve their business strategies in order to achieve the efficiency desired. However, financial institutions also operate in a very competitive, unstable, and constantly changing macroeconomic, financial, and legal environment. Consequently, it is

rather challenging for them to operate more efficiently under such conditions. For that reason, it is essential to test and measure their efficiency in order to keep track and compare their business performance with that of other financial institutions. For that purpose, efficiency can be, and is, measured and followed, for example, on the level of the banking industry, insurance industry, pension sector, etc. In that sense, a number of different parametric and non-parametric methods or approaches can be applied for efficiency assessment. The most common approach for business performance efficiency measurement in the banking industry is the calculation of different financial (accounting) indicators. Nevertheless, this approach measures efficiency for a specific unit in a given period of time and does not take into calculation external environment impact (eg. competition), nor does it calculate efficiency by taking into consideration how a particular unit performs in comparison to the other(s) closest competition. Consequently, in such an approach, the efficiency results provide only the information about the level of efficiency for a specific unit (for example, bank branch, bank group, country banking industry), without providing information about business performance efficiency in comparison to that of other units. For the purpose of testing efficiency more realistically, but somewhat differently, data envelopment analysis (and DEA models) is used as a specific mathematical non-parametric method. It takes into consideration other units, and its results actually give us insight into how each Decision Making Unit (DMU) is efficient in comparison to the other DMUs (competition) included in such an analysis. Some of the previous studies on the topic of efficiency measurement in banking (Tuškan and Stojanović, 2016) and in banking together with insurance industry (Jurčević and Mihelja Žaja, 2013) obtained results that suggested and highlighted the possibility of early detection or signs of macroeconomic or financial instability in the business environment. This is indicated as the main advantage of the DEA approach in efficiency measurement when compared to, for example, the accounting or other financial indicators calculation approach. Lag detected in the efficiency result is an important signal to financial institutions management, encouraging the usage of different approaches in efficiency testing for getting more precise and more realistic results. Such testing could help the institutions in making better decisions – namely, that they accommodate in time and choose the best appropriate adaptation of their business strategies to the newly created circumstances in their business environment at a time when many factors influence and create very specific and challenging business performance conditions. Precisely that was the case with the Republic of Croatia after its the accession to the European Union (2013) since the previous period was characterised by many connected legal adaptations (for banks: Law on Credit institutions, 2009; implementation of Basel III rules, etc.) in addition to all of the economic, social, and financial consequences of prolonged recession duration in the period after the onset of the last financial crisis of 2008. Consequently, many changes occurred in the Croatian financial sector. Those changes were particularly significant in the banking sector, according to a stronger decrease in the number of banks operating, a consequence of emphasised M&A or bankruptcy (less) activities in the last decade. The accession to the European Union impacted the insurance industry more conspicuously since it marked the beginning of the liberalization of the insurance market. Although the legal provision, i.e. the deregulation of conditions and tariffs, came into force on January 1, 2008, real liberalization took place in 2013. Liberalization of the insurance market enables insurers to do business on a market basis, respecting individual approach to risk and a more equitable determination of premiums for policyholders. The possibility of new companies entering is open on the liberalized market, thereby further stimulating the price competition between insurers. This type of regulation may allow for lower premiums, but such that it will not impair the stability of the insurance companies themselves. Furthermore, in 2016 the Solvency II, a Legislative and Regulatory Framework for insurance companies, came into force. Solvency II has endorsed new, firmer rules for solvency, risk management, and risk-based monitoring processes, as well as a new way of reporting and disclosing. All of these

changes are implemented in order to protect the insured, i.e. the beneficiaries of insurance, and to prevent instability in the insurance market. In that sense, a more detailed analysis of business performance efficiency would provide information about what was happening with business strategies of DMUs and whether they were competitive in such circumstances.

The main goal of this research is to reach a more precise conclusion about the business performance of the Croatian financial sector and how different changes, such as macroeconomic, financial, legal, etc., affect its business performance efficiency results. For that purpose, efficiency is measured by using DEA methodology in the banking and insurance sector as carriers of Croatian financial sector with a joint share of 75% in the total asset. Efficiency is tested for the period from 2012 to 2018 on pooled data and the sample of Croatian banks and insurance companies operating during that period. The results of this research can be a valuable source of information not only for the scientific community and future researchers but also for the professional community: primarily banks' and insurance companies' management, in addition to all of the other financial institutions. Research results can help management (managers) in the financial sector in creating better business strategies by taking into consideration and comparing the different efficiency testing results, but also by encouraging them to use different analytical tools and approaches for efficiency testing in order to make more precise decisions regarding business performance. Research results could help financial sector supervisors as well, not only in improving the supervision of subjects' business performance but also in the part of a more precise macroeconomic and financial movements forecast and analysis. Precise macroeconomic and financial movements forecasting results are an important base for governments in the creation of a quality and the properly directed economic policy.

This paper consists of six parts. After the Introduction, its second part presents a literature overview. The third part includes insight into the Croatian banking and insurance industry. Methodology and data are explained in the fourth part, whereas empirical research results are given in the fifth part. The last section presents the conclusion.

2. Literature overview

Data envelopment analysis (DEA) efficiency measurement approach has been usually and extensively used to assess the efficiency of schools, hospitals, public sector, and not-for-profit institutions, financial institutions, etc. Charnes et al., 1978, were the first to describe DEA efficiency measurement approach and apply a mathematical planning model (Charnes-Cooper-Rhodes [CCR] model) to measure efficiency frontier based on the concept of Pareto optimum and on the basis of Farrell assumptions (1957) in the part of productive efficiency measurement. This approach considers, for example, how much the total efficiency in the financial sector can be improved and ranks the efficiency scores of decision-making units (DMUs). The DMUs are usually described by several inputs that are spent on the production of several outputs. DEA efficiency measurement derives from analyzing empirical observations obtained from DMUs to define productive units, which are characterized by common multiple outputs and common designated inputs (Charnes et al., 1978). DEA is most useful in cases where accounting and financial ratios are of little value, multiple outputs are produced through the transformation of multiple inputs, and the input-output transformation relationships are unknown (Charnes et al., 1978).

Studies dealing with DEA are mostly centered on deriving a summary measure of the efficiency of each unit, on estimating targets of performance for the unit, and on identifying role-model

units of good operating practice. Additional uses for DEA in banking include the measurement of efficiency in light of resource and output prices, the estimation of operating budgets that are conducive to efficiency, the assessment of financial risk at bank-branch level, and the measurement of the impact of managerial change initiatives on productivity (Thanassoulis, 2001).

As a specific mathematical non-parametric, linear-programming-based method for assessing the performance of homogeneous organizational units, DEA was increasingly being used worldwide mainly in banking, but also, more recently, in the rest of the financial industry (Emrouznejad, Yang, 2018). In that sense, the unit of assessment, or decision making unit, for example in banking industry efficiency testing by using DEA, is usually the bank branch, but it can be a bank at the national level or the banking industry (banking groups) at the level of some union, etc. In the financial sector, DEA has therefore been widely used in banking industry efficiency measurement. However, this approach has also been used increasingly more often in other efficiency testing of financial institutions, especially for the insurance industry; more recently, it was applied to efficiency measurement of pension and investment funds, etc. Consequently, many among the research, scientific, and professional papers were written in many of the abovementioned areas of application by using only the DEA efficiency measurement models, or by combining them with another approach to efficiency measurement. This paper analyses the efficiency of the financial industry in the Republic of Croatia: several research papers have been written by using DEA approach in this part. For the Republic of Croatia, the efficiency of banks was investigated by using the DEA approach, for example, by Neralić, 1996; Jemrić and Vujčić, 2002; Jurčević and Mihelja Žaja, 2013, Tuškan and Stojanović, 2016. On the other hand, the DEA efficiency measurement approach in the Croatian insurance industry was applied by Davosir Pongrac, 2006; Jurčević and Mihelja Žaja, 2013; Mihelja Žaja and others, 2018, etc. Example of DEA application to efficiency measurement of the Croatian mandatory pension funds can be found in the research paper by Olgić Draženović and others, 2019. Gardijan and Krišto, 2017, give an overview of the efficiency of mutual funds in Croatia. What follows in this paper is a more detailed literature overview of the abovementioned research papers.

The results of Croatian banking industry efficiency testing by using DEA approach for the period between 1995 and 2000 suggest that smaller banks are globally efficient, yet large banks are locally efficient; foreign-owned banks are the most efficient on average, whereas new banks are more efficient than old ones. The rehabilitation process in the large state-owned banks improved their efficiency, but also contributed to a substantial decrease in the interest rate spreads, and thus a more competitive environment in the banking market. Greater macroeconomic stability and competition in the banking sector from foreign banks' entry promote cost efficiency, as does the development of the supportive institutions (Jemrić and Vujčić, 2002, 17).

Besides the DEA approach, the most common approach used for measuring the financial institutions' efficiency deals with ratio analysis among several financial institutions by using numerous accounting ratios. The ratio analysis approach can measure the overall financial soundness of the financial institutions and the operating efficiency of its management (Jurčević and Mihelja Žaja, 2013). In that sense, accounting ratios assure valuable information about the performance of financial institutions when compared to previous periods. However, the weakness of ratio analysis is the lack of agreement on the relative importance of various types of input and output. A bank may appear to be performing well even if it is being poorly managed on some of these dimensions as long as it compensates by performing particularly well on other

dimensions (Neralić, 1996). Furthermore, the accounting ratios fail to observe more outputs with more inputs and fail to consider the value of management actions and investment decisions that will affect the future, as opposed to current performance (Neralić, 1996). The main difference in results between accounting ratio approach and DEA approaches in case of the Republic of Croatia and efficiency measurement of banks and insurance companies for the period 2005 – 2010 was noted in the sense of accounting approach efficiency measurement scores lag after 2008, i.e. after the onset of the last financial crisis: DEA efficiency scores had the lowest values in the year 2007 for insurance industry and in 2008 for banks, but with visible lower values already in 2007 when to previous years, whereas accounting ratios had the lowest values in 2009 (Jurčević and Mihelja Žaja, 2013). For that reason, use of DEA is recommended in addition to, or complemented by, the accounting ratios in efficiency measurement for a more realistic conclusion about financial institutions' business performance.

DMUs can, however, be banks or other financial institutions in some country, as well as banking or other financial industries (or chosen banks) in the region, union, etc. In that sense, some of the studies were dealing with the banking or insurance industry on a country level as DMUs. For example, in Tuškan and Stojanović (2016), efficiency of the European banking industry was analyzed on the sample of 28 European banking systems as DMUs (including Croatian) by using different efficiency measurement approaches, namely that with accounting ratios, and another with DEA approach. Comparison of results gained in that research suggested a lag of average accounting indicators (particularly Return On Assets – ROA, and Return On Equity – ROE) over the results of DEA window analysis efficiency measurement approach. The conclusion of this research suggested DEA as a desirable alternative, or a complementary analytical tool, in the detection of early signs of inadequate business strategies, which may lead to a slowdown of business activity or poorer efficiency results. As a tool, research suggested that DEA could also be important in times of unstable financial or macroeconomic environment because it can help in the detection of early signs of crisis, earlier than accounting indicators.

In their recent research of insurance industry Mihelja Žaja and others (2018) evaluated the performance of the insurance industry in selected member states of the European Union for the period from 2004 to 2017. The main conclusions of their analysis were that business efficiency in the insurance markets has been declining in the observed period; the financial crisis affected the result of efficiency, given the interconnectedness of insurance and financial markets, however, markets managed to recover; a significant drop in efficiency occurred between 2011 and 2013; the country-by-country efficiency analysis showed that fourteen among 26 countries analyzed were above the average efficiency score.

DEA efficiency measurement approach used in the examination of the performance of mandatory pension funds in the Republic of Croatia gave results which suggest that among 12 mandatory pension funds only five achieved scale efficiency for the period from 2015 to 2018, meaning that they operated at a maximum score in 2015 (Olgić Draženović and others, 2019, 92). The results of DEA efficiency testing of mutual funds in Croatia suggest that DEA is useful for performance testing of UCITS funds and complements traditional measures. The paper contributes to the development of the adjusted DPEI index. Analysis indicated that the efficiency of UCITS funds changed across the three analyzed periods: the efficient funds in the pre-crisis period are primarily stock and money market funds, those dominating in the period of the financial crisis are money market funds – as expected; whereas in the post-crisis period no type of UCITS funds shows a clear dominance (Gardijan and Krišto, 2017, 90).

3. Insight into Croatian banking and insurance industry

The last decade in the financial and macroeconomic environment was somewhat challenging on many levels for both business performance and doing business in general, not only in the Republic of Croatia as the newest member state but also in the rest of the EU. Such a situation of instability was mainly caused by the financial crisis, but also by some political changes and decisions. However, the Republic of Croatia experienced a more prolonged recession duration in the period after the onset of the last financial crisis of 2008 – all until 2015. This resulted in many changes in the financial sector as well as in the total economy. The main changes in the banking sector as the main part of the Croatian financial sector, since it takes about 68% (HRK 409 billion at the end of 2018; CNB, 2019 b) of total financial sector assets worth more than HRK 600 billion (Table 1), were observed in the sense of stronger decline in the number of banks, mainly as a consequence of M&A activities or bankruptcy, and after a longer idle period in the sense of conglomeration in banking sector (Appendix 1).

Table 1: Relative importance of financial institutions in Croatia

	2017		2018	
	Asset, in HRK million	Share	Asset, in HRK million	Share
Commercial banks	401,148	68.44%	408,667	67.62%
Obligatory pension funds	91,925	15.68%	98,126	16.24%
Insurance companies	40,838	6.97%	41,936	6.94%
Leasing	18,150	3.10%	19,531	3.23%
UCITS investment funds	18,500	3.16%	19,117	3.16%
Saving banks	7,728	1.32%	5,454	0.90%
Voluntary pension funds	4,745	0.81%	5,139	0.85%
Alternative investment funds	3,076	0.52%	3,280	0.62%
TOTAL	586,110	100,00%	601,698	100%

Source: Croatian Insurance Bureau (CIB) (2019): Insurance Market in the Republic of Croatia 2018: Key Facts

This situation can be explained by deteriorated credit portfolio quality in the period after the onset of the last financial crisis. The share of non-performing loans (NPL) (loans in B and C risk groups) increased to 14% until 2012, with the highest level reached in 2014 (17.1%), but this was followed by another decrease in acceptable or manageable levels (under 10%) after 2017 (CNB, 2019 c). Many efforts were made in the direction of the (quality) capital increase and balance "cleaning" process in order to satisfy new, stricter regulatory rules that membership in the EU brought in this part to Croatia as well. Additionally, banks in Croatia have a specific owner structure: over 90% of the banking sector asset is foreign-owned. However, a high level of concentration (Table 2) is also present within the banking sector: 2 largest banks take part of 48%, with 4 largest banks taking even 73.4% of the asset according to data for 2018 (CNB, 2019 c). Despite a significant decrease in a number of banks operating in the Republic of Croatia during the last decade, there still remains a large number of banks in comparison to both country and population size, and most of them are small banks (with asset size under HRK 5 billion, or less than 1% share in total banking sector asset). Thirty-one banks operated at the end of 2012 in Croatia, while this number decreased to 21 until the end of 2018 (CNB, 2019 c). The expansionary monetary policy resulted in the all-time high HRK liquidity surplus (i.e. free reserves in banks' accounts), averaged HRK 30 billion in 2018, which was twice as much as in 2016 and fourteen times the amount recorded in 2008, the year preceding the crisis (CNB, 2018; EBF, 2019). The rising surplus of liquidity in the financial system has focused on the competition between banks on lending and contributed to the decline in interest rates. At the same time, their dependence on cross-border financing decreased, leading to a drop in exposure to systemic risks. The banking system continued to accumulate significant capital surpluses as

well, as a result of the continuous supervision of the banks' operations by the Croatian National Bank and further strengthening the resilience of the system (CNB, 2018; EBF, 2019). Consequently, capitalization and capacity to absorb potential losses remained very high: capital ratio in total improved from nearly 21% in 2012 to over 23% in 2018 (CNB, 2019 c).

After five years of decline, bank assets slightly increased in 2017. Bank assets decreased from 2012 onwards, primarily due to the absence of credit growth and continued bank deleveraging, particularly vis-à-vis majority foreign owners, and in 2015 under the additional influence of the increased sale of placements and regulations on the conversion of loans in Swiss francs into loans in euros, which also had a stronger negative impact on banks' income statement values (due to the high expenses on value adjustments and loss provisions) and connected accounting profitability indicators (Return on Average Assets: ROAA and Return on Average Equity: ROAE) for that year (Table 2). Slight recovery of ROAA and ROAE in the post-crisis period after 2010 was followed by a stronger decrease in the period 2013-2015 in both values regarding abovementioned deteriorated asset quality: the growth in expenses on loss provisions sharply reduced banks' business performance; in 2013 the profit (before taxes) decreased by almost 70%, while ROAA and ROAE fell to their lowest level since 1998. From 2016 onwards, better results had been achieved, and at the end of 2018, ROAA value was at an acceptable 1.4%, while ROAE was at 8.5%. After being burdened by expenses related to the credit risk of the Agrokor Group in 2017 due to the difficulties in the business operations, bank profits recovered again in 2018 (Table 2). Bank cost-efficiency measured by the cost-to-income ratio (CIR), a ratio between general operating expenses and operating income, additionally improved in 2015 and onwards (Table 2), primarily under a strong influence of rising operating income.

Table 2: Financial indicators for Croatian banking and insurance industry in the period 2012-2018

	2012	2013	2014	2015	2016	2017	2018
Banking industry							
Total no. of banks	31	30	28	28	26	25	21
Concentration index 2 (4)	43.3 (66.9)	43.4 (66.8)	43.5 (66.6)	44.7 (67.6)	45.7 (68.2)	45.5 (68.1)	48.0 (73.4)
ROAA (%)	0.8	0.2	0.5	-1.3	1.6	1.0	1.4
ROAE (%)	4.8	0.8	2.8	-8.8	9.6	5.9	8.5
CIR (%)	51.8	52.0	51.3	51.7	45.0	46.7	47.8
Interest rate spread (%)	2.4	2.4	2.5	2.6	2.8	2.9	2.5
Capital ratio	20.9	21.0	21.8	20.9	22.9	23.8	23.1
Total asset, million HRK	399,900	397,900	395,200	393,400	388,700	391,300	408,700
Profit before taxes, million HRK	3,391	695	2,068	-5,032	6,171	3,905	5,597
Net profit, million HRK	2,724	478	1,535	-4,616	5,031	3,348	4,892
Net interest income, million HRK	10,577	10,156	10,270	10,549	10,825	10,935	9,843
Net non-interest income, million HRK	4,269	4,336	4,203	3,833	5,194	4,803	4,799
Insurance industry							
Total no. of insurance comp.	28	27	26	24	22	20	18
Concentration index 3(6)	52,81 (66,30)	52,61 (65,60)	51,04 (71,77)	49,50 (69,42)	48,26 (67,82)	49,68 (68,95)	51,09 (78,76)
Gross written premium, million HRK	9.038	9.076	8.561	8.708	8.683	9.055	9.855
Total asset, million HRK	34.049	34.510	36.646	37.864	39.379	40.838	41.939
Insurance density (premiums per inhabitant, HRK)	2.118	2.133	2.020	2.075	2.100	2.195	2.410
Insurance penetration (premiums in GDP, %)	2,8	2,8	2,6	2,6	2,5	2,5	2,6
Claims ratio (%)	63.00	58.7	64.1	64.0	61.2	65.1	62.2
Expense ratio (%)	46.4	41.5	43.5	39.8	38.9	37.3	25.8
Combined ratio (%)	109.4	100.2	107.6	103.8	100.2	102.4	98.0
Return on investment (%)	4.4	2.6	3.2	4.0	3.8	3.2	-
Median of solvency ratio (SCR) (%)	-	-	-	-	194	204	207
ROE (%)	8.1	3.1	-0.6	6.6	6.5	6.1	-
ROA (%)	1.6	0.6	-0.1	1.3	1.5	1.4	-

Source: Authors' calculation and CNB and CFSSA official data

The analysed period was rather challenging for insurance companies, as it was characterized by the liberalization of the motor third-party liability insurance market, the introduction of the Solvency II regulatory framework, and the dynamization of the market under the influence of cost-efficiency and privatization processes. The Republic of Croatia joined the EU, and the insurance market liberalized at that time; however, the real consequences became visible only in 2014, when the most significant drop in premiums since the beginning of the financial and economic crisis in the Republic of Croatia was recorded. The share of the gross written premium (GWP) of property and liability insurance in the total premium is 75% on average, which is why the fall in the cost of motor liability insurance has had such a significant impact on the total premium. The decline in GWP continued over the next three years, with market recovery and growth in gross premium written since 2017. In 2018, there was an 8.8% annual growth in gross premium written, driven by growth, and the property and liability insurance market, the highest growth rate since 2007. The negative trend of other indicators of the insurance market since 2014, namely insurance density, insurance penetration, combined ratio, ROE, and ROA, shows how much impact the liberalization process has had on the business of the insurer. However, insurers' asset in the financial sector was growing slowly but steadily. The assets of Croatian insurers in 2012 amounted to HRK 34.1 billion, while at the end of 2018, they amounted to HRK 41.9 billion. The next major change, if not the biggest, in the insurance market in the Republic of Croatia, occurred in 2016 in relation to the introduction of a new regulatory framework for the business of insurance and reinsurance companies based on the Solvency II Directive. This framework has made significant changes for companies in the calculation of capital requirements, which includes the valuation of assets and liabilities, the calculation of technical provisions, the determination of own funds, and the calculation of Solvency Capital Requirement (SCR) and Minimum Capital Requirement (MCR). SCR is the level of capital that enables the insurance company or the reinsurance company to absorb almost all of the adverse events and solvent business with respect to the risks assumed. An MCR represents the lowest permissible level of capital of a company below which policyholders and beneficiaries, when allowed to do business, would be exposed to an unacceptable level of risk (CFSSA, 2016). According to 2016 data (Table 2), it can be seen that insurance companies are satisfactorily capitalized with relatively stable solvency ratios, with the median solvency ratio of insurance companies well above the regulatory minimum for all groups of insurers. With the introduction of the new regulatory framework, Solvency II increased the data coverage and complexity of the reports that insurance companies are required to produce and submit to CFSSA. As a result of market liberalization, growing regulatory requirements, and the consequent increase in costs in recent years, more mergers of insurance and reinsurance companies headquartered in the Republic of Croatia have been carried out. There is a significant decrease in the number of insurance companies, numbering 28 in 2012, compared to 18 at the end of 2018.

4. Methodology and data

There are a few common approaches to measure the efficiency of financial institutions. The most straightforward approach is financial ratio analysis trough the calculation of accounting indicators. The second is a parametric programming approach that is generally concerned with the production or expense function base and used to estimate the characteristics of the function and measures economies of scale while assuming all DMUs are operating efficiently. The third approach, DEA, uses DMUs efficiency frontiers to construct measures of efficiency and is labeled as a non-parametric programming approach, which considers the degree to which total efficiency in the financial sector can be improved, and ranks the efficiency scores of DMUs. This efficiency measurement approach is derived from analysing empirical observations

obtained from DMUs for defining productive units, which are characterised by typical multiple outputs and commonly designated inputs. (Tuškan, Stojanović, 2016)

DEA is chosen as a method for analysis in this paper since it deals with the DMUs efficiency ranking and takes into consideration their performance depending on income statement main data groups (variables) used as inputs and outputs. The attention to variable selection is crucial since the higher the number of input and output variables, the less constrained are the model weights assigned to the inputs and outputs, and the less discerning are the DEA results (Jenkins and Anderson, 2003). Since the total number of input and output variables in the DEA model should be no more than one-third the number of DMUs, several methods have been proposed to limit the number of variables: the analysis of correlation among the variables, the analysis of change in the efficiencies as variables are added and removed from the DEA models, limiting the number of variables relative to the number of DMUs, etc. (Wagner, Shimshak, 2007). Variables used in this paper are chosen, taking into consideration that they reflect realistically the total business performance of DMUs. Therefore, the main income statements data groups: expenses snd income (for banks: interest, non-interest, and other expenses and income; for insurance companies: net operating costs, investment cost, claims incurred, earned premiums and investment income) are chosen to be used as inputs and outputs in chosen DEA model, since they have the most significant impact on the total profit as simple accounting indicator of efficiency performance. We used a super-efficiency DEA model on pooled data for 183 observations for banks and 112 observations for insurance companies and estimated the efficiency scores relative to all 183 i.e., 112 referent observations (i.e., the efficiency scores are relative to a pooled frontier).

Different DEA models result in different types of efficiency. Standard DEA models include CCR (Charnes, Cooper and Rhodes) model assumes constant returns to scale (CRS) and, gives global technical efficiency as a result; BCC (Banker, Charnes and Cooper) model assumes variable returns to scale (VRS) and result in pure local technical efficiency; the window analysis model as more specific due to analysis of panel data which is used for examination of changes in the efficiencies of a set of DMUs over time, etc. (Cooper et al., 2006; Banker at al., 1984).

The efficiency score in standard DEA models is limited to unity (100%). Nevertheless, the number of efficient units identified by DEA models and reaching the maximum efficiency score 100% can be relatively high; especially in problems with a small number of decision making units, the efficient set can contain almost all of the units. It is very important to have a tool for diversification and classification of efficient units in such cases: that is why several DEA models for classification of efficient units were formulated. In these models, the efficient scores of inefficient units remain lower than 100%, but the efficiency score for efficient units can be higher than 100%. Thus the efficiency score can be taken as a basis for a complete ranking of efficient units. The DEA models that relax the condition for unit efficiency are called super-efficiency models. The super-efficiency models are always based on removing the evaluated efficient unit from the set of units. This removal leads to the modification of the efficient frontier, whereas super-efficiency is measured as a distance between the evaluated unit and unit on the new efficient frontier (DMU*) (Jablonský, 2006).

The first super-efficiency DEA model (input-oriented formulation, which is very close to the standard input-oriented formulation of the CCR input-oriented model) was formulated by Andersen and Petersen (1993). Tone (2001) proposed a slack based measure of efficiency (SBM model) that was the basis for the formulation of the super-efficiency SBM model (Tone, 2002), formulated as

follows:

minimize

$$\rho = \frac{1 - \frac{1}{m}\sum_{i=1}^{m} s_i^- / x_{iq}}{1 + \frac{1}{r}\sum_{i=1}^{r} s_i^+ / y_{iq}}$$

$$\sum_{j=1}^{n} x_{ij}\lambda_j + s_i^- = x_{iq}, \qquad i = 1,2,\dots,m$$

subject to

$$\sum_{j=1}^{n} y_{ij}\lambda_j - s_i^+ = y_{iq}, \qquad i = 1,2,\dots,r$$

$$\lambda, s^+, s^- \geq 0$$

The formulation shows that the SBM model is non-radial and deals directly with slack variables. The model returns efficiency score between 0 and 1 and is equal to 1 if and only if the DMU_q is on the efficient frontier without any slacks. The formulation of a super-efficiency SBM model with fractional objective function can be simply transformed into a standard problem with the linear objective function, which is not exactly a model with the linear objective function, but it can be simply re-formulated as a standard LP problem by means of Charnes-Cooper transformation (Jablonský, 2006).

For the purpose of this research and for abovementioned reasons, in order to get information for a more precise and realistic conclusion about Croatian financial industry business performance, the analysis that follows is undertaken exactly by using DEA methodology super-efficiency SBM model (output-oriented, variable returns to scale), applied on pooled data for banking and insurance sectors separately and by using software package DEA-Solver-Pro.

Different financial institutions operate according to different business models. Banks, for example, traditionally operate according to the lending trough the deposit-funding model if their balance is observed. On the other hand, insurance companies predominantly finance themselves through collecting the insurance premiums, and most of the funds are allocated in different types of money and securities investments. For that reason, inputs and outputs used in DEA models for the purpose of efficiency testing are different for the banking sector in comparison to the insurance industry. Since Croatian banking sector experienced many changes in the number of banks due to M&A activities and failures, but consequently also changes in the owner structure in observed period 2012-2018, all of the changes were anticipated and, for the purpose of analysis, all the banks in all of the years in which they operated were taken into consideration. In that sense, the sample for the banking sector includes 30 banks in total, and that means 183 DMUs. For the purpose of efficiency estimation, all input and output data were taken from banks' income statements available in Banks Bulletins (Croatian National Bank, different editions). For each j-th DMU (i.e. for each bank in each year in an observed period in which they operated) the input data (x_{ij}) include:

  Input 1, (x_{1j}) → interest expenses
  Input 2, (x_{2j}) → non-interest expenses
  Input 3, (x_{3j}) → other expenses (labour-related and capital-related administrative expenses and other expenses from the bank's business activity).
Output data (y_{ij}) include:
  Output 1, (y_{1j}) → interest incomes
  Output 2, (y_{2j}) → non-interest incomes

Output 3, (y_{3j}) → other incomes from business activity.

The main business activity of banks assumes collection of deposits, lending transactions and payment operations. From those activities, main groups of incomes and expenses arise. Interest income category assumes income from interests earned in bank's lending activities and related revenues, non-interest income includes incomes from fees and commissions and other related revenues, and the last category is other incomes from business activity. On the other side, expenses from bank's business activity include interest expenses that arise from deposits collection activity and related expenses, non-interest expenses that include expenses on fees and commissions and other related expenses, while the category other expenses includes: labour-related administrative expenses (costs of employees), capital-related administrative expenses (amortization, office supplies, etc.) and other expenses from bank's business activity.

The role of insurance companies in the financial market is complex. On the one side, they underwrite and collect premiums for risks undertaken, followed by claim pay-out or pay-off of the sum insured, and on the other side, they invest available reserves and mathematical provision from which they collect a profit. That is why for inputs and outputs variables were selected from the company's annual report, namely its statement of comprehensive income. In the insurance sector, some changes in the number and business performance continuity also happened within the period observed. Consequently, for the purpose of analysis, 17 insurance companies were observed, and that means 112 DMUs. The analysis for the insurance industry in this paper is performed on the available data for the period 2012-2018. For each j-th DMU (i.e. for an insurance company) the input data (x_{ij}) include:

        Input 1, (x_{1j}) → net operating expenses,
        Input 2, (x_{2j}) → investment costs,
        Input 3, (x_{3j}) → claims incurred.

Output data (y_{ij}) include:

        Output 1, (y_{1j}) → earned premiums,
        Output 2, (y_{2j}) → investment income.

5. Empirical research results

Since the super-efficiency DEA model deals with pooled data, the excel output from DEA Solver Pro resulted in the efficiency scores ranked from 1 to n depending on the total number of DMUs included into the analysis. Therefore, further statistical analysis of results is made: results are grouped for each year separately, and average values were calculated. Table 3 and Graph 1 show the summary results of Croatian banking and insurance industry efficiency measurement.

Table 3: Croatian banking and insurance industry DEA efficiency measurement summary results

	2012	2013	2014	2015	2016	2017	2018
Banking industry							
Total no. of DMUs	30	29	27	27	25	24	21
No. of efficient DMUs (≥1)	11	5	5	5	4	5	12
No. of DMUs with efficiency >1	9	5	5	5	4	4	11
No. of inefficient DMUs	19	24	22	22	21	19	9
Average (in)efficiency	0.7761	0.4579	0.4224	0.4483	0.4856	0.5661	0.8646
Average efficiency of efficient DMUs	1.2051	1.0428	1.1085	1.0650	1.1037	1.005	1.1754
Insurance industry							
Total no. of DMUs	11	17	17	17	17	17	16
No. of efficient DMUs (≥1)	3	7	5	5	3	5	4

	2012	2013	2014	2015	2016	2017	2018
No. of DMUs with efficiency >1	3	6	5	5	3	4	3
No. of inefficient DMUs	8	10	12	12	14	12	12
Average (in)efficiency	0,7705	0,7818	0,8243	0,7632	0,6983	0,7301	0,6895
Average efficiency of efficient DMUs	1,0724	1,0508	1,3066	1,0467	1,0383	1,0665	1,0522

Source: Authors' calculation

Graph 1: Average DEA efficiency scores for banking and insurance industry in the period 2012-2018
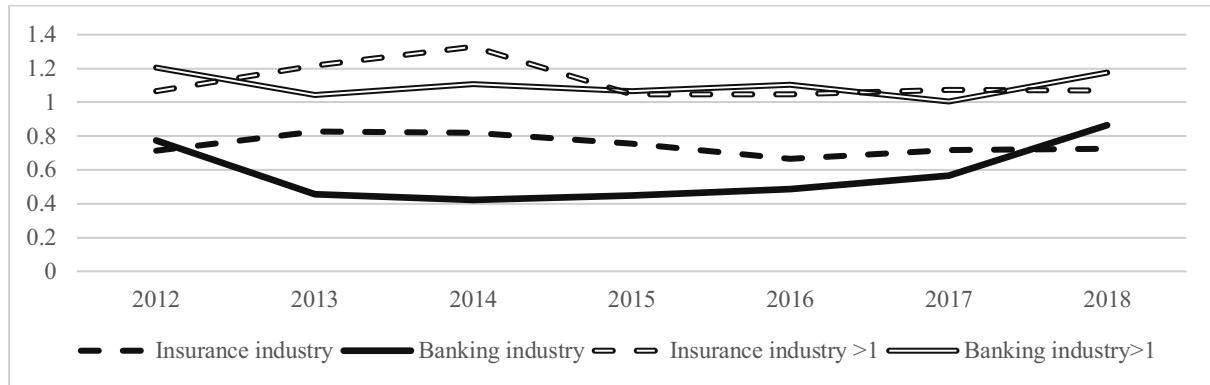
Source: Author's calculation

The efficiency analysis results obtained in this paper suggest that Croatia's accession to the European Union did not by itself strongly impact banking sector efficiency since connected structural changes were made in the previous period in addition to changes and adaptation in regulation. Stronger impact on efficiency in the period observed can be seen in consequences of the crisis on business performance as well as input and output data used in analysis and in M&A and failure activities described in the third part of the paper, in addition to the recession effects and application of more strict post-crisis regulatory rules, especially between 2013 and 2016. Exactly in that period, both DEA efficiency scores, average efficiency, and average efficiency of efficient DMU's, declined stronger and recorded the lowest values as well as (less or more) accounting profitability and efficiency indicators (ROAA, ROAE, CIR, etc.). The best overall efficiency results achieved in 2018 confirm this thesis since 2018 was the year when most of the relevant processes (M&A, balance cleaning, failures, etc.) were successfully finished after years of stronger changes and activities in that part and followed by the somewhat "clearer and cleaner" situation in the Croatian banking industry in the sense of survival of efficient and competitive units.

The efficiency analysis results obtained for the insurance industry clearly show the negative effect of market liberalization on efficiency score from 2014. These scores are a direct consequence of a decrease in gross written premium due to reductions of premiums in the motor third-party liability insurance. The highest efficiency scores, and the biggest number of efficient DMU's, was in 2014 due to the conservative investment policies with a goal of achieving a high level of liquidity and investment certainty. The decline in 2015 and 2016 is evident in both average efficiency scores and average efficiency of efficient DMU's whereas the lowest scores, and the highest number of inefficient insurers were in 2016. Subsequent efficiency scores were clearly influenced by the introduction of the regulatory framework Solvency II. It forced insurance companies to meet the basic objective of capital management and maintain the required level of stability, thus ensuring a reasonable level of security for policyholders and maximizing returns to shareholders and policyholders. Although the market environment was rather challenging with high competition in the observed period, and still not completely recovered from the economic crisis, the insurance companies managed to maintain stability and

achieve necessary Solvency Capital Requirement (SCR).

6. Conclusion

Accession to the EU and especially the period before accession, influenced the Croatian financial sector through various channels and in different ways. The main and most important drivers of changes were requirements in the harmonization of the regulatory framework with EU Directives, which were successfully finished precisely in the first half of the period observed. In addition to this, banking sector and banks' business performance were stronger influenced by consequences of the crisis and its impact on capital requirements and additional regulation adaptation in the direction of more strict risk management rules in order to assure satisfactory loss provision due to the increase and very high level of NPLs in the post crisis period, all until 2016. The consequences of such changes and prolonged economic recession period were continuous work on the improvement of asset quality by the cleaning process accompanied by M&A activities and failures. The lowest accounting profitability and efficiency indicators observed as well as DEA efficiency scores achieved in the period 2013-2016 reflect those activities. Although the liberalization as a consequence of Croatian accession to the EU dramatically influenced the gross written premium, the insurance companies were well prepared, so they managed to recover in a short period to be able to satisfy Solvency II capital requirements. This is not visible only in the efficiency scores but also in combined ratio and SCR, which indicate the efficacy and acceptable level of capitalization of insurers' business. It can be concluded that lag in effects of abovementioned regulatory changes is not present in banking and insurance industry due to the reasonable period for business adjustment, although there is a present stronger correlation between regulatory changes and decrease in the number of banks and insurance companies, since the smaller one have stronger difficulties in business adjustments to new circumstances.

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APPENDICES

Appendix 1: List of banks (DMUs) included into analysis of banking sector for the period 2012-2018:

1. Addiko Bank d.d., Zagreb[1] (ADI)
2. Agram banka d.d., Zagreb[2] (AGR)
3. Banco Populare Croatia d.d. Zagreb[3] (BPC)
4. Banka Kovanica d.d., Varaždin (BKOV)
5. Banka splitsko-dalmatinska d.d., Split[4] (BSD)
6. BKS Bank d.d., Rijeka[5] (BKS)
7. Centar banka d.d. Zagreb[6] (CEB)
8. Croatia banka d.d., Zagreb (CRB)
9. Erste&Steiermärkische Bank d.d., Rijeka (ESB)
10. Hrvatska poštanska banka d.d., Zagreb (HPB)
11. Imex banka d.d., Split (IMX)
12. Istarska kreditna banka Umag d.d., Umag (IKB)
13. J&T banka d.d., Varaždin[7] (JIT)
14. Jadranska banka d.d., Šibenik[8] (JAB)
15. Karlovačka banka d.d., Karlovac (KAB)
16. KentBank d.d., Zagreb (KEN)
17. Nava banka d.d. Zagreb [9] (NAV)
18. OTP banka Hrvatska d.d., Split[10] (OTP)
19. Partner banka d.d., Zagreb (PAR)
20. Podravska banka d.d., Koprivnica (POD)
21. Primorska banka d.d., Rijeka[11] (PRIM)
22. Privredna banka Zagreb d.d., Zagreb (PBZ)
23. Raiffeisenbank Austria d.d., Zagreb (RAIF)
24. Samoborska banka d.d., Samobor (SAMB)
25. Sberbank d.d., Zagreb (SBER)
26. Slatinska banka d.d., Slatina (SLAT)
27. Splitska banka d.d., Split[12] (SPL)
28. Štedbanka d.d., Zagreb[13] (ŠTED)
29. Veneto banka d.d., Zagreb[14] (VENT)
30. Zagrebačka banka d.d., Zagreb (ZAB)

Notes:

[1] Hypo Alpe-Adria-Bank d.d., Zagreb, changed its name to Addiko Bank d.d., Zagreb, on 11 July 2016.
[2] Kreditna banka Zagreb d.d., Zagreb, changed its name to Agram banka d.d., Zagreb, on 28 December 2018.
[3] Banco Populare Croatia d.d. Zagreb merged with OTP banka Hrvatska d.d., Split on 1. December 2014.
[4] Bankruptcy proceedings were instituted against Banka splitsko-dalmatinska d.d., Split, on 1 July 2016.
[5] BKS Bank d.d., Rijeka, merged with BKS Bank AG, Klagenfurt, on 1 October 2016. At the same time, BKS Bank AG, Branch Rijeka, became operational. It changed its name to BKS Bank AG, Branch Hrvatska, on 30 June 2017.
[6] Bankruptcy proceedings were instituted against Centar banka d.d. Zagreb, on 30 September 2013.
[7] Vaba d.d. banka Varaždin, Varaždin, changed its name to J&T banka d.d., Varaždin, on 2 January 2017.
[8] Jadranska banka d.d., Šibenik, merged with Hrvatska poštanska banka d.d., Zagreb on 1 April 2019.
[9] Bankruptcy proceedings were instituted against Nava Banka d.d. Zagreb, on 1 December 2014.
[10] On 3 October 2018, the Bank changed its head office from Zadar to Split.
[11] Voluntary winding-up proceedings were initiated in Primorska banka d.d., Rijeka, on 21 June 2018.
[12] Splitska banka d.d., Split, merged with OTP banka Hrvatska d.d., Split on 3 December 2018.
[13] Voluntary winding-up proceedings were initiated in Štedbanka d.d., Zagreb, on 27 December 2017.
[14] Veneto banka d.d., Zagreb, merged with Privredna banka Zagreb d.d., Zagreb, on 12 October 2018.

Appendix 2: DEA methodology super-efficiency SBM model results for banking industry (output-oriented, variable returns to scale), (excel output from *DEA-Solver-Pro)*

	2012	2013	2014	2015	2016	2017	2018		Average
ADI	0,7109	0,4521	0,4410	0,3391	0,5545	0,6675	0,7195		**0,5550**
AGR	1,0320	0,1085	0,3081	0,1023	0,1762	0,3279	0,5241		**0,3685**
BPC	1,0690	0,0237							**0,5463**
BKOV	1,6176	1,0289	0,0063	1,0038	0,0090	1,0020	1,0191		**0,8124**
BSD	1,0000	0,9997	0,0990	0,0977					**0,5491**
BKS	0,3386	0,3190	0,3336	1,0288					**0,5050**
CEB	0,0061								**0,0061**
CRB	0,4120	0,5210	0,4211	0,3459	0,3588	0,4084	1,4148		**0,5546**
ESB	1,0570	0,5063	0,7002	0,8267	1,1052	1,0033	0,7564		**0,8507**
HPB	1,0916	1,0605	0,2524	0,7146	0,3280	0,7002	1,0933		**0,7487**
IMX	0,4332	1,0216	1,0556	0,0249	0,0370	0,1449	0,2818		**0,4284**
IKB	0,7481	0,3333	0,1723	1,2003	0,2214	0,3898	1,1903		**0,6079**
JIT	0,6077	0,1571	0,1981	0,3792	0,2481	0,7496	1,2377		**0,5111**
JAB	0,7547	0,3710	0,1887	0,1529	0,3545	0,5492	1,2683		**0,5199**
KAB	0,3140	0,2039	0,0999	0,0646	0,1356	0,1022	0,1588		**0,1542**
KEN	0,4238	0,1375	0,2128	0,2027	0,2614	0,2349	0,1707		**0,2348**
NAV	0,0254	0,2186							**0,1220**
OTP	0,6826	0,1907	0,2463	0,2866	0,7323	1,0058	1,1811		**0,6179**
PAR	0,8057	0,2597	0,5901	0,2655	0,3801	0,3209	0,5297		**0,4503**
POD	0,4456	0,4095	0,2746	0,2909	0,2640	0,3060	0,4955		**0,3552**
PRIM	1,0000	0,0290	0,0433	0,0273	1,1617	0,0348			**0,3827**
PBZ	1,0995	0,5215	0,6034	0,8026	0,7977	0,8708	1,3471		**0,8632**
RAIF	1,1721	0,4900	1,0460	0,4560	0,6982	0,9225	1,0622		**0,8353**
SAMB	0,6982	0,3142	0,1627	0,2740	0,9991	1,0000	1,0000		**0,6355**
SBER	0,8309	0,4715	1,0313	0,2353	0,5526	0,4936	1,0215		**0,6624**
SLAT	0,6752	0,4306	0,1752	0,1489	0,0788	0,4581	0,4156		**0,3404**
SPL	1,5318	0,4562	0,1960	0,6717	0,3150	0,6612			**0,6386**
ŠTED	0,6869	1,1013	1,3952	1,0703	1,1031				**1,0714**
VENT	0,4272	0,1399	0,1373	0,0706	0,2221	0,2215			**0,2031**
ZAB	1,5854	1,0017	1,0142	1,0218	1,0448	1,0117	1,2697		**1,1356**
Average	**0,7761**	**0,4579**	**0,4224**	**0,4483**	**0,4856**	**0,5661**	**0,8646**		**0,5422**
Average efficiency of efficent	**1,2051**	**1,0428**	**1,1085**	**1,0650**	**1,1037**	**1,0046**	**1,1754**		**1,1007**

Source: author's calculation

Appendix 3: List of insurance companies (DMUs) included into analysis of insurance industry for the period 2012-2018:

1. Adriatic osiguranje d.d. (AD)
2. Agram life osiguranje d.d. (AGL)
3. Allianz Zagreb d.d. (AL)
4. Croatia osiguranje d.d. (CR)
5. Ergo osiguranje d.d. [1]
6. Ergo životno osiguranje d.d. [1]
7. Erste osiguranje d.d. [2] (ER)
8. Euroherc osiguranje d.d. (EH)
9. Generali osiguranje d.d. (GEN)
10. Grawe hrvatska d.d. [3] (GW)
11. HOK osiguranje d.d. [3] (HOK)
12. Hrvatsko kreditno osiguranje d.d. (HKO)
13. Izvor osiguranje d.d. (IZV)
14. Merkur osiguranje d.d. [3] (MK)
15. OTP osiguranje d.d. [3] (OTP)
16. Triglav osiguranje d.d. (TRI)
17. Uniqa osiguranje d.d. [3] (UQ)
18. Wiener osiguranje Vienna insurance group d.d. (WN)
19. Wüstenrot životno osiguranje d.d . [3] (WU)

Notes:
[1] Data were not available due to transfer of entire portfolio to Sava osiguranje d.d., Podružnica Zagreb
[2] Erste Insurance Company d.d. merged with Wiener Insurance VIG d.d. on 7 May 2018
[3] Data available since 2013

Appendix 4: DEA methodology super-efficiency SBM model results for the insurance industry (output-oriented, variable returns to scale), (excel output from *DEA-Solver-Pro)*

	2012	2013	2014	2015	2016	2017	2018		Average
AD	0,4490	0,3512	0,3634	0,4029	0,4957	0,4227	0,4968		**0,4260**
AGL	1,1021	0,8033	0,7795	0,9518	0,9457	0,8660	1,1242		**0,9389**
AL	0,9246	0,9882	1,4842	1,0000	0,9015	1,0389	1,0112		**1,0498**
CR	1,0955	1,0027	0,9108	1,0323	1,0564	1,1423	1,0732		**1,0447**
ER	1,0197	0,9571	1,0528	1,1269	1,0454	1,0006			**1,0337**
EH	0,6296	0,4677	0,5813	0,7236	0,6965	0,5653	0,7198		**0,6262**
GEN	0,8817	1,0278	1,5010	1,0229	0,5924	0,8418	0,7208		**0,9412**
GW		1,0640	0,9756	0,9580	1,0132	0,9889	0,8679		**0,9779**
HOK		0,2572	0,3115	0,2644	0,2024	0,1624	0,2248		**0,2371**
HKO	0,9998	1,0000	1,2500	0,7731	0,8159	0,5956	0,5228		**0,8510**
IZV	0,3502	1,1079	0,3028	1,0514	0,7127	0,3808	0,2378		**0,5919**
MK		1,0678	1,2453	0,8915	0,8604	0,8632	0,8635		**0,9653**
OTP		0,5823	0,5706	0,4054	0,3692	0,3662	0,3635		**0,4429**
TRI	0,4581	0,4599	0,7147	0,3963	0,3023	1,0000	1,0000		**0,6187**
UQ		1,0851	0,8073	0,8508	0,7019	0,6914	0,6488		**0,7975**
WN	0,5656	0,6461	0,7456	0,7448	0,8063	1,1504	0,8415		**0,7858**
WU		0,4228	0,4163	0,3789	0,3531	0,3344	0,3156		**0,3702**
Average	**0,7705**	**0,7818**	**0,8243**	**0,7632**	**0,6983**	**0,7301**	**0,6895**		**0,7511**
Average efficiency of effient	**1,0724**	**1,0508**	**1,3066**	**1,0467**	**1,0383**	**1,0665**	**1,0522**		**1,0905**

Source: author's calculation

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TOURIST EVALUATION OF THE EVENTS OF TOWN OF KARLOVAC ACCORDING TO VISITORS' EXPERIENCES

ABSTRACT

In the scientific and professional literature, certain elements have been defined by which the "value" of events can be estimated. Event managers should not be satisfied solely with supply-related information (physical factors), they should also take into account demand-side data (subjective factors) that imply the experience of the event visitor. The effectiveness of the tourist valorisation of events depends on the prior research of visitors' perceptions and their preferences in the selection of each event and related contents. The subject of this paper is the tourist valorisation of four events of the town of Karlovac (Spring Promenades, The Bonfire of Karlovac, Balloon Festival, Beer Festival, Advent) that were held during 2019 according to the subjective factors of valorisation. The aim of the paper is to evaluate the value and growth potential of four events of the town of Karlovac in 2019 according to subjective factors of valorisation (visitor experience). A descriptive research of the attitudes of visitors of five events of the town of Karlovac was conducted on an intentional sample of 1167 visitors in the period from 28th of April to 23rd of December 2019. An interview method was used to examine visitors' attitudes. Descriptive statistics was used to describe the level of visitor satisfaction with certain contents of events. The results of this research seek to expose the subjective aspect of the value of the events for visitors. The authors also want to evaluate the growth potential of the above mentioned events based on the findings of visitor satisfaction. The results of this research benefit those entities that manage the organization of various events for the purpose of improving the quality of services, as well as for the full gradation of events according to objective (physical resources) and subjective factors (visitor satisfaction) at the same time. The entities that manage the organization of events combine objective factors with the subjective experiences of visitors. They conduct research of visitors' attitudes in order to determine the proper life cycle stage and sustainability of the event. They also can create a valorisation model for each type of event that will more precisely define the evaluation factors and criteria with respect to the specifics of each event.

Keywords: event, visitors, subjective factors, objective factors, visitor satisfaction.

1. Introduction

Destinations around the world develop various events in order to build a brand of the destination, extend the tourist season, encourage investment, generate revenue and boost the local economy. Nowadays, tourists seek to gain experience that will give them a higher level of satisfaction. Experience can be gained in a variety of ways such as involvement in community life, learning about the traditions and habits of the local population etc. One of the most common way of gaining experience are events organized on the topic related to the various aspects of local life (local gastronomy, manufactures, traditional manifestations etc.).

Numerous Croatian destinations develop events in order to attract tourists. Karlovac is a relatively small town in the center of Croatia that has, due to the natural and anthropogenic resources as well as its traffic position, a great potential for development of tourism. Karlovac Tourist Board, Town of Karlovac and various associations are constantly working to develop events that will empower tourism as well as attract local visitors and increase the expenditure. There are a few events that are held regularly in Karlovac. Authors of this paper made a research on the subject of visitors experience at five events that were held in Karlovac during 2019 (Spring Promenades, The Bonfire of Karlovac, Balloon Festival, Beer Festival, Advent). Previous research on the topic of events held in town of Karlovac was based on motivations for attending those events (Vitner Marković, Varičak, Cegur Radović, 2019).

The aim of this paper is to evaluate the value and growth potential of five events of the town of Karlovac in 2019 according to subjective factors of valorisation (visitor experience). The following research questions were formed:
1. Are the visitors of the event planning on revisiting (coming back)?
2. How many times have they visited the event so far?
3. Will the visitors recommend the event to other people?
4. Are the visitors satisfied with the programme of a specific event?
5. What is the overall satisfaction of visitors with a specific event?
6. What is missing in that specific event?
7. In which direction should that specific event head in the future?
8. Do they recognize the potential for growth for that specific event?

According to the subject and the aim of this paper the main hypotheses of this paper are:
MH1 - Visitors of the events of the town of Karlovac during 2019 (Spring Promenades, The Bonfire of Karlovac, Balloon Festival, Beer Festival, Advent) are pleased with the contents of the events,
MH2 - The events of the town of Karlovac, that visitors are pleased with in the development perspectives, show the potential for growth.

A descriptive research of the attitudes of visitors of five events of the town of Karlovac was conducted on an intentional sample of 1167 visitors in the period from 28th of April to 23rd of December 2019. An interview method was used to examine visitors' attitudes. Descriptive statistics was used to describe the level of visitor satisfaction with certain contents of events. The research instrument for the purposes of this paper also contains open-ended questions related to the observations and suggestions of visitors in order to improve the quality of events, as well as possible shortcomings. The answers to the same questions determine the growth potential of a particular event and indicate the corresponding phase of the life cycle from the marketing aspect.

2. Methodology

A descriptive survey was conducted during the year 2019 measuring attitudes of visitors' at events in the city of Karlovac: Spring Promenades, The Bonfire of Karlovac, Balloon festival, Beer festival, Advent. Spring Promenades were held during weekends from 27th of April to 18th of May. 324 visitors were questioned. On June 23rd a survey was held with 150 visitors of the Bonfire of Karlovac. From 28th to 30th June, during the same year, a survey was held on 150 visitors of the Balloon festival. From 30th of August to the 3rd of September 283 visitors of the Beer festival were surveyed. In the period from December 18th to December 23rd during the Advent event survey was held on 260 visitors. The aim of the research was to examine visitor attitude about satisfaction of certain elements of held events, the intention to visit again, the feeling of loyalty, the shortcomings of this event and the direction of future development of the observed events in the city of Karlovac. Open-ended questions in the questionnaire were intended for highlighting potential and possibilities for future development. A combination of questionnaire and interview method was used during the research. The research was conducted using a convenience sample, which is a form of non-probability sampling. The visitors questioned were mostly from Karlovac. The questionnaire had close-ended and open-ended questions. The questionnaire measured the respondents' event satisfaction, respondents' event loyalty and demographic data (adapted from Marković, S. et al., 2018). The visitors had to answer 33 questions of structured questionnaire. The research was anonymous. Data collection was followed by data analysis and processing. Visitors attitudes were measured by a Likert scale for scaling responses in the range from 1 to 5 (1- completely unsatisfied, 5 – completely satisfied).

Variables contained in the instrument of the research were described with the descriptive statistics. Used measures for central tendency were arithmetic mean (complete measure), and mode (positional measure). For the purposes of this research the elements of the tourist valorisation of the event were graded by subjective factors (satisfaction, loyalty).

The elements of the tourist valorisation of events are based on the attitudes of visitors of those events for potential growth (the life cycle of the events) and the quality of the programme from the perspective of the level of visitor satisfaction.

3. Theoretical background

Desire and behaviour of nowadays tourists are changing and they are becoming more interested in specific products and services. Due to that various specific forms of tourism are developing. Specific forms of tourism are characterised by emphasized individuality in satisfying tourists' needs and desires (Težak et al., 2011). One of these specific forms of tourism is event tourism. The roles and impacts of planned events in tourism have been well documented and are of an increasing importance for destination competitiveness (Getz, 2008, cit. in: Težak et al. 2011).

3.1 The tourist valorisation of events

Event sector is fast growing sector which is connected to various other sectors. They remain the single most effective means of providing a high touch experience. According to Goldblatt there are four factors affecting event growth: demographic, technological, disposable income shifts, time shifts (Goldblatt, 2000). McDonnell, Allen, and O'Toole describe the typical impacts resulting from events in Australia in their book 'Festival and Special Event Management' (1999). According to them possible event impacts include: increased visitation

during the shoulder or off season; enhancing the overall tourism experience; being a catalyst for development; promoting economic benefits; and finally as a means of promoting the long term impacts within destinations (McDonnell, Allen, and O'Toole, 1999).

Events are mostly recognized as a part of a tourism industry and often tourists are important stakeholders when planning the event. But due to Getz not all events need to be tourism oriented and some fear the potential negative impacts associated with adopting marketing orientation. As well, events have other important roles to play, from community-building to urban renewal, cultural development to fostering national identities tourism is not the only partner or proponent. (Getz, 2008) The elements with which the tourist valorisation of events is carried out are defined according to the scientific literature. Getz, (2008, 407) recognizes the next elements:

- potential for event growth (phase of the event life cycle),
- stake in the market of happenings on the destination (in relation to the other event of the destination),
- the quality of the content/programme,
- the influence on the image of the destination (as well as recognition in the identity of the destination),
- the influence on the local community (domicile population and quality of life),
- environmental impact,
- the economic benefits of the event (stimulating consumption, business opportunities),
- sustainability of the event (economical, social and ecological),
- suitability of the event (in reference to the suitability of the content of the event to the targeted group – ie. interpretational content).

Model of the tourist valorisation of space according to UNWTO-u (2011, 96) also takes the objective factors like physical resources, that is the space in which the event is being held. Valorisation of the space in which the event is being held means accessibility of the locality (traffic connection, signalization, the distance between the locality relating to the main tourist zones of the destination), degree of utilization of the site (carrying capacity of the site), specificity of the space, availability of the tourist services in the locality (visitor content), inherent characteristics of the locality (architectural, historical and artistic value of the locality). The objective factors are commonly combined with the subjective experience of the visitors. That is what makes grading the events according to objective (physical resources) and subjective factors (the experience of the visitors) simultaneously possible.

Events and festivals offer a range of benefits at different stages of their development to tourism destinations. In return, destinations provide events and festivals with a venue, an audience, a workforce, joint marketing opportunities and a host community. So, it is important to determine phase of the event life cycle.

3.2 Tourism Area Life Cycle (TALC)

TALC model is one of the most widely cited and applied theories within the tourism literature and has been used as a model linking the development cycle of tourism destinations to that of products in the product life cycle model (Holmes, Ali Knight, 2017). Due to the Getz and Frisby festival tourism was termed "an emerging giant" (Getz and Frisby, 1988; Getz, 2010). Festivals and events are closely related to the destination where they are held. They can extend the tourist season, encourage investment, generate revenue and boost the local economy (Derrett, 2003). Events and festivals can be seen as building blocks of destination image and attracting tourists

(Getz, 1991). Events and festivals offer a range of benefits at different stages of their development to tourism destinations. In return, destinations provide events and festivals with a venue, an audience, a workforce, joint marketing opportunities and a host community. These mutual benefits imply interlinked development cycles. (Holmes, Ali-Knight, 2017). Butler describes six stages of life cycle: exploration, involvement, development, consolidation, stagnation and then either rejuvenation or decline (Butler, 2006). There are a number of published studies of events, which apply the TALC to events and festivals (Holmes, Ali-Knight, 2017; Frisbyand, Getz, 1989; Getz, 2002; Davies, 2011).

According to the Butler model of the life cycle of the product and services in tourism (exploration, involvement, development, consolidation, stagnation, rejuvenation/decline) a research was conducted (Racasan, 2015, 206) which includes tourist valorisation of the event according to objective factors and the life cycle of the specific event. Tanford, Jung (2017) researched the connection between the level of satisfaction and loyalty of the event visitors. They analyzed the scientific literature that relates to the event tourism for the purpose of determination and assessment of attributes that contribute to satisfaction and loyalty of the event visitors. A strong bond between the level of satisfaction and loyalty of the event visitors was established. They pointed out several key physical attributes that determine them.

Kim's research begs the following question: If tourism impact is indeed perceived by community residents and these perceptions do influence their sense of well-being in various life domains and overall life, then could this influence vary depending on where the community is in the tourism development life cycle (introduction, growth, early maturity, late maturity, and decline)? Again, answers to these questions are very important to both community leaders and tourism officials. This is due to the fact that tourism policies and programs formulated to enhance residents sense of well-being in material, community, emotional, and health/safety life may work more effectively in certain stages of the tourism development life cycle than others. Such information is vital to tourism development policy (Kim, 2013).

Dodds (2019) argues that there is a need to understand the life cycle for a tourist, in addition to one for a destination. The seasoned traveler that is more familiar with a destination may treat it with more respect – something that all destinations crave yet the focus of destinations is often on attracting the new visitor rather than the repeat. There is no debate that understanding the motivations, type of experience and locale where the experience is consumed will shift, it is proposed by this Tourism Experience Life Cycle that the seasonality of the tourist may have been overlooked. Depending on their amount or experience of travelling may also go through the same lifecycle type approach: namely excitement, novelty, normalization and familiarity. The final stage, familiarity, is when the visitor may not even need a map or may in fact provide directions to other tourists. Therefore, this figure posits that the more familiar a tourist is, the less touristy they will act and the more they will seek out 'other' types of experiences or act less like a traditional tourist and more like a local. They also may feel more responsibility toward the destination as they are more familiar and therefore treat it more like their home.

3.3. Visitor satisfaction

Overall quality and customer satisfaction have been used as global evaluations (Oh et al., 2007, 123). Satisfaction is measured as overall satisfaction with the festival, as satisfaction with specific attributes is classified in the relevant attribute category (Tanford, Jung, 2017, 213). Studies demonstrate that the organization of cultural events could be a measure of product quality and a determinant of tourism satisfaction (Chhabra et al., 2003; Kruger et al., 2013). The

individual beliefs influence the level of satisfactions (Brida et al., 2013). In the literature it is referred with terms festival (Yoon et al., 2010; Tanford and Jung, 2017) and visitor (Yan et al., 2012). Many researches did an empirical investigations of the relationships between service quality, satisfaction and behavioral intentions among visitors (Tian-Cole et al., 2002; Petrick, 2004; Lee, and Beeler, 2007; Cole, Illum, 2006; Baker, Crompton, 2000).

Event managers aim to continuously improve the quality of events by simultaneously increasing the level of visitor satisfaction and cost rationalization (Bowdin, GAJ, Church, IJ, 2000). Subjective factors play a significant role in improving quality and implementing valorisation, among others (visitor attitudes). Quality improvement is recognized in the development of new manifestations or the improvement of elements of already existing ones (Bowdin, G. A. J., Church, I. J., 2000).

Based on the study (Cole, Chancellor, 2009; Marković, et al., 2018) authors of this article examine the level of visitor satisfaction of Karlovac festival's attributes (programs, amenities, entertainment quality, social interaction) and their intentions to return. As tourism literature states that a deep understanding of the differences between first time and repeat visitors is relevant in developing effective tourism marketing strategies (Lau, McKercher, 2004), can be used as a basis to understand the development of loyalty and to identify a destination's position in its life cycle (Oppermann, 1998).

4. Research results

The answers to the research questions in this paper are directed towards the marketing aspect of event management (level of satisfaction of event visitors with contents and programs, loyalty of visitors, intention to visit again, recommendation of visiting friends and acquaintances by word of mouth marketing, etc.). The observed variables (satisfaction, loyalty) contained in the instrument of research were described with descriptive statistics. Measures of central tendency used are arithmetic mean and mode. Based on the answers of open-ended question „In which direction should that specific event head in the future", „Do you recognize the potential for growth for that specific event", "Have you visit the event before", as well as the level of their satisfaction, helped to determine the life cycle of each event.

The sample consisted of 1167 respondents classified into three target groups (domestic visitors, trippers, tourists). Surveyed visitors were mostly domestic. There were more females then males, approximately mature ages. Table 1 shows general, demographic characteristics of respondents who visited events held in the town of Karlovac. It can be seen that female respondents were in the majority at most of the events (except Beer festival). On the average 57,58% of the respondents were female. At Beer festival over 54% of respondents were male. More than 30% of the respondents for majority of events were age 18-25 (on the average 31,54%), second in representation are respondents aged 36-45 and the smallest number of respondents were older people (aged 66 and more).

Table 1: General characteristics of the Karlovac event visitors in year 2019

Spring Promenades		The Bonfire of Karlovac		Balloon Festival		Beer Festival		Advent	
Age	Percentage	Age	Percentage	Age	Percentage	Age	Percentage	Age	Percentage
18-25	33%	18-25	36%	18-25	18,94%	18-25	37,10%	18-25	32,68%
26-35	14%	26-35	29,33%	26-35	20,45%	26-35	29,70%	26-35	19,86%
36-45	23%	36-45	18,02%	36-45	29,54%	36-45	21,10%	36-45	26,46%
46-55	13%	46-55	10,66%	46-55	12,12%	46-55	6,40%	46-55	14,39%
56-65	6%	56-65	3,33%	56-65	13,63%	56-65	4,30%	56-65	3,50%
66 and more	11%	66 and more	2,66%	66 and more	5,32%	66 and more	1,40%	66 and more	3,11%
Sex	Percentage	Sex	Percentage	Sex	Percentage	Sex	Percentage	Sex	Percentage
Female	65%	Female	52%	Female	63,70%	Female	46,90%	Female	60,30%
Male	35%	Male	48%	Male	36,30%	Male	54,10%	Male	39,70%

Source: Authors' on the basis of research results, N=1167

Significant 97% of surveyed visitors of Spring Promenades answered that they would visit it again next year. Also, most of the surveyed visitors have attended the Spring Promenades in previous years (78%). Visitors are satisfied with the event (4,23). Visitors believe that the development of the event shows promise and they also believe it needs more themed content.

More than 85% of visitors answered that they would visit the Bonfire of Karlovac again and recommend it to others. Most of the surveyed visitors have attended the Bonfire of Karlovac in previous years (65%). Visitors are satisfied with the event (4,18) and they believe it's developing in the right direction.

The Balloon Festival was first carried out in the year 2019. More than 90% of surveyed visitors answered they would visit the festival again and recommend it to others. Visitors are satisfied with the event (4,20).

Visitors are satisfied (3,68) with the overall realization of the Beer Festival. The event went through significant location changes regarding it's availability and inherent site characteristics. Most of surveyed visitors already visited the event once (83%) and will recommend it to others. Likewise, visitors are satisfied (4,15) with the overall realization of Advent event, they visited the event before (52%) and are likely to recommend it to others.

Below is a summary of the most common responses of event visitors to open questions in the research instrument:

- Spring Promenades - visitors want something new, conceptually and substantively different, inventive, refreshing;
- The Bonfire of Karlovac - visitors believe that the event is developing in a promising direction and that there is room for improvement of existing content;
- Ballon Festival - although visitors are visiting an event of this nature for the first time, they believe that it should be developed by improving the existing content on the existing concept;
- Beer Festival - visitors believe that the event has undergone a significant transformation in terms of accessibility and use of the site, the inherent characteristics of the site, the content of the program, etc.;
- Advent - visitors believe that the event is developing in a promising direction and that there is room for improvement of existing content.

This summary plays a significant role in determining the growth potential of each event. Table 2 shows evaluation of the events by visitors. Evaluation was based on subjective factors e.g. visitor attitudes.

Table 2: Evaluation of events in Karlovac during 2019 based on subjective factors (visitor attitudes)

Number	Event (during 2019)	Arithmetic Mean (overall visitor satisfaction)	Mode	Repeat Visit of Surveyed Visitors	Life Cycle (based on subjective factor)
1	**Spring Promenades**	4,23	5	78%	Consolidation
2	**The Bonfire of Karlovac**	4,18	4	65%	Development
3	**Balloon Festival**	4,20	4	0%	Involvement
4	**Beer Festival**	3,68	4	83%	Rejuvenation
5	**Advent**	4,15	5	52%	Development

Source: Authors' on the basis of research results, N=1167

Since the initial hypotheses of conducted research were MH1 - Visitors of the events of the town of Karlovac during 2019 (Spring Promenades, The Bonfire of Karlovac, Balloon Festival, Beer Festival, Advent) are pleased with the contents of the events, MH2 - The events of the town of Karlovac, that visitors are pleased with in the development perspectives, show the potential for growth and according to the results shown by the Table 2 and the summary of open questions responses it can be concluded that aforementioned hypotheses have been confirmed.

5. Conclusion

Event industry became one of the fast growing industries. Many destinations develop different events to build a brand, to connect to domestic and foreign visitors, to extend the season, increase revenue etc. Quality event management becomes a necessity especially in augmenting the quality of a destination to make it distinctive by the experiences it offers and the extent to which it is capable of meeting the needs of modern guests/visitors. Hence, it is important to continuously measure visitor satisfaction with events to ensure that an event offering is designed in accordance with the expectations of modern guests/visitors.

Subjective factors of tourist valorisations of events, ie attitudes of visitors in this research, determine certain life cycle of events. Conducted research of the attitudes of visitors at events held in Karlovac during 2019, was focused on the components of the marketing aspect of event management (level of satisfaction of visitors with content and programs, visitor loyalty, intention to visit again, recommendations for friends and acquaintances by word of mouth, etc.). Also important are the attitudes of visitors regarding the recommendations for improvement and the perspective of the development of events in the future. Visitors' attitudes about the development perspective and the necessary improvement of individual events played a key role in defining the development phase and the consolidation phase, given that visitors are generally satisfied with the events in both cases.

Descriptive analysis of observed variables "visitor satisfaction", "visitor loyalty" determined the phase of life cycle of the events in the town of Karlovac. This research is based on subjective factors of tourism valorisation of the events on visitor satisfaction. Average rating and answers given by visitors in open-ended questions were crucial to determining the life cycle of events in question. Events that visitors were satisfied with show a growth potential. Recommendations

for future research relate to a more comprehensive analysis of objective and subjective factors of tourist valorisation of the events simultaneously in order to find the optimal evaluation model. Also, future research should investigate the level of satisfaction separately for those who visited the event for the first time from those who have visited it several times before, with the purpose of defining also the life cycle of the visitor experience.

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IMPORTANCE OF GASTRONOMY HERITAGE FOR TOURISM DEVELOPMENT – THE CASE OF MEDITERRANEAN DIET IN CROATIA

ABSTRACT

Continuous increase of interest for gastronomy on demand side of tourism market has a positive influence on the increase of gastronomy importance in the tourism product of Croatia, especially in sustainable development of special interest tourism. Due to increasing competition on tourism market and emergence of new tourism destinations with different tourism products, gastronomy heritage as a part of cultural heritage of a nation and area becomes one of the most important resources in achieving competitive advantage. Croatia possesses an exceptional treasury of gastronomy heritage and a great potential for its tourism valorisation. Original and indigenous cuisine of Mediterranean area attracts attention of both scientists and tourists. Mediterranean diet, in Croatian and other Mediterranean areas, manifests itself in social, spiritual and tangible aspects of life and represents the foundation for identity of those areas. Today, Mediterranean diet is considered as a preferred standard of proper nutrition, as it is inscribed onto the UNESCO List on Intangible Cultural Heritage. Along with increasing importance of gastronomy as a motive for the arrival of tourists to Croatia, this area of research becomes more interesting. The aim of this paper is to analyse key characteristics of Croatian gastronomy heritage and especially Mediterranean diet and its importance and possibilities of valorisation in tourism of Croatia. To reach the aim, two-step primary research was taken. This included focus group with students and in-depth interview with the conceptual initiators of the projects rated as best practice examples. The results showed that Croatian gastronomy offer, especially based on original Mediterranean diet, can provide additional incentive to increase quality and unique experience in tourism.

Key words: gastronomy heritage, Mediterranean diet, identity, Croatia.

1. Introduction

Despite the globalization trend which has resulted in a number of unified and standardized elements of the tourism offer, tourists are quite focused on products based on local culture and tradition which provide unique tourism experience. Intangible elements and values within tourism products and services became very important in creation of competitive advantage among destinations. Gastronomic heritage incorporated in gastronomic tourism offer represents an opportunity for providing unique experience (Lin, 2014; Fandos Herrera et al., 2019). Due to this fact, destinations which are using their gastronomic can assure competitiveness of

tourism. Cultural aspect of gastronomy is based both on tangible elements (e.g. ingredients for preparation of meals and representative product packages), but also on intangible elements and values (e.g. techniques and methods of growing food and the skills of preparing traditional dishes). They jointly contribute to the greater value and recognition of the area, that is, the destination in terms of tourism (Ron and Timothy, 2013; Pérez Gálvez et al., 2017; Hernández-Mogollón et al., 2019). Gastronomy embodies all the traditional values associated with the new trends in tourism: respect for culture and tradition, a healthy lifestyle, authenticity, sustainability and experience. (Gaztelumendi, 2019).

Croatia has a rich and diverse intangible heritage, and gastronomy is of particular importance. Numerous associations for the preservation of tradition, especially at the local level, make a significant contribution to the preservation tradition by transferring knowledge and skills to new generations and by studying and documenting this valuable part of heritage. Within the intangible heritage, gastronomy is positively emphasized in its involvement in tourism offer. Croatian gastronomic culture is undoubtedly one of the most interesting and richest in Europe, primarily because it combines the Central European, Mediterranean and Oriental cuisine, but also because it is based on extremely healthy foods (Žutelija, 2019, 10). In an interesting and relatively small geographical area there is a wide range of different cuisines, customs and gastronomic heritage which is a result of the turbulent and long history of the area. Each Croatian region has its own gastronomic specifics and special culinary personality. From proto-Slavic essences mixed with Hungarian, Viennese and Turkish influences in meats, desserts and vegetable dishes of continental regions, to Greek, Roman and Illyrian Mediterranean flavours of fish delicacies and wines of the coastal region. The variety of Croatian cuisine is reflected in numerous specialties, from aperitifs such as the world-famous Maraschino from Zadar, appetizers such as cheese from the island of Pag, Slavonian ham and kulen sack, Ston oysters and mussels, excellent grilled fish, salty anchovies and delicacies such as eels and frogs from the Neretva valley, turkeys with pancakes, Dalmatian paticadas, and desserts such as cotyledons, croutons or fritters (Croatian National Tourist Board).

Gastronomic heritage is of great importance in unique tourist experience creation and exploration of tourism destination. The growing role of gastronomy as a motive for the travel to a certain destination provides a great potential for quality and sustainable long-term growth and development of tourism products in Croatia. The important thing that has to be taken into consideration are trends in gastro tourism, which include molecular food, slow food, macrobiotic food, eco, functional and vegetarian food (Skryl, Gregorić and Dugi, 2018). These trends can be implemented in gastronomic tourism offer in Croatia based on local cuisine. As an example of underutilized intangible cultural heritage, the paper particularly emphasizes Mediterranean cuisine, which is still not properly valorised in Croatia and has an exceptional potential for valorisation in tourism. According to Skryl, Gregorić and Dugi (2018), Croatia needs to strengthen the development of indigenous Croatian cuisine, which will cover all the specific dishes of all regions in Croatia by emphasising traditional Croatian dishes and following new trends. As a valuable resource of the intangible cultural heritage, Mediterranean cuisine has been recognized by UNESCO as being on the list of protected intangible heritage. In Croatia, there is 14 other intangible cultural heritage elements on the Representative list of the intangible cultural heritage of humanity. This makes Croatia the second country in Europe and fifth in the world in terms of these valuable intangible cultural assets. (UNESCO, 2020). The main aim of the paper is to explain the role of gastronomy in tourism, as well to explore the potential of food tourism offer in Croatia.

2. Theoretical background

Eating is one of the fundamental human activities and tourists spend nearly half of their budget on food and beverage while traveling. On the other hand, tourists became increasingly demanding and focused on specific interests, derived from very specific and personal motivation (Pulido-Fernández, Casado-Montilla and Carrillo-Hidalgo, 2019). Therefore, food is accepted as an essential tourism product and recognized as an important attraction (Okumus, Koseoglu and Ma, 2018: 74). As Ellis et al. (2018) stated, "the subject of food tourism, or the close relationship between food and tourism, has been a visible tourism research area for the past three decades, but its unprecedented growth and popularization in the tourism literature has witnessed in the more recent years (2008–2015)". Due to same authors, in recent years there as significant increase in special issues of journals devoted too food tourism, as well as specialized conferences on topics related with food and tourism. To see the opportunities of using food in tourism, it is important to understand the importance and the role of food for tourists, which is two folded. Firstly, food can be a main motive for traveling. In this case, it is a special interest tourism called enogastonomic tourism, which can be defined as "tourists visiting primary and secondary food producers, food festivals, restaurants and specific locations for which food and tasting and/or experiencing the attributes of a specialist food production region are the primary motivating factors for travel" (Hall and Mitchell, 2001: 308). Tourist primarily motivated with food and wine (or some other type of drink, e.g. coffee, tea, gin…) are quite acquainted with food tourism offer and search for something authentic and different, something worth of traveling. Second type of tourists includes all tourists whose primary travel motive is not food, but food becomes a part of their travel experience. As Tsai and Wang (2017: 57) stated, interest of tourists for authentic gastronomic offer as well the consumption, provides a deeper understanding of the lifestyle of local residents, since "food choice and consumption practices have been passed on from generations to generations and have been an essential element forming a particular culture" (Weng Si and Couto, 2020). In addition, food tourism has the capacity to impact upon a number of other areas. It can help simulate the resurgence of regional gastronomies, which in turn creates food heritage and distinctive foodways (Kim, Park and Lamb, 2019: 176). Before concrete examples of food involvement in tourism offer, it is necessary to explain the connection between gastronomy, culture and tourism.

3. Key determinants of gastronomy in tourism

The Encyclopedia Britannica (2020) defines gastronomy as the art of selecting, preparing, serving, and enjoying fine food. The development of culinary habits depends on the social, geographical and historical context. Therefore, culinary cultures differ depending on attitudes and tastes that people associate with cooking and eating (Žaper, 2004, 229). The wealth of the local heritage treasury is important pull factor for attracting tourists and creating a unique gastro experience. Gastronomy has a particularly important role to play in this, not only because food is central to the tourist experience, but also because gastronomy has become a significant source of identity formation in postmodern societies. More and more, 'we are what we eat', is not just in the physical sense, but also because we identify with certain types of cuisine that we encounter on holiday (Richards, 2003, 3).

3.1. Gastronomy as a part of heritage and a part of destination image

The cuisine and food characteristic are closely related to the culture and customs of the certain area. Due to the fact that the originality and the tradition became an indispensable trend, their implementation in tourism offer contributes to the preservation and recognition of that same

heritage. Increasing interest in gastronomy, the culture of eating and the eating habits led to the stronger promotion of food as an important part of identity. The 'comfort foods' of childhood become the refuge of the adult cocooner. Any attempt to change our eating habits is seen as an attack on our national, regional or personal identity (Richards, 2003, 4). Inclusion of flavours and aromas of traditional dishes in tourism offer assures better experience which will stay in memory for longer period of time. But when it comes to nutrition as an intangible cultural asset, it also implies a broader framework, not just a recipe for typical dishes of a particular region. In the valorisation of gastronomic heritage, destinations face the challenge of building the identities of particular areas to make them recognizable culinary destinations. Therefore, the involvement and cooperation of all stakeholders in the destination is of great importance. It is also important continuously improve the quality of gastronomy based tourism products at all levels (from local food manufacturers, caterers, the public sector, as well as other diners directly or indirectly involved in the provision of tourist services in the destination). Croatia has an exceptional gastronomic heritage that varies by geographical area, by type of cuisine and origin of dishes. There is a variety of top Croatian wines, home-made spirits, olive oils, dried meat specialties, cheeses, etc., which makes the gastronomic offer very interesting and attractive for many tourists coming to Croatia motivated by gastronomy. Croatia gained special value and recognition due to the fact that UNESCO has protected Mediterranean diet, which is a part of tourism offer in numerous destinations.

According to UNWTO, gastronomy is one of the strategically important elements in the process of defining the brand and the image of a destination. Research results show that 88.2% of respondents consider that gastronomy is a strategic element in defining the brand and image of their destination. Only 11.8% were of the opinion that gastronomy played a minor role. However, a smaller percentage of respondents believe their country has its own gastronomic brand: only 67.6% responded in the affirmative. In fact, a significant percentage (32.3%) believe that their country has not structured its own brand of gastronomy, meaning that, in general, destinations still have some ways to go in terms of their strategic reflection on gastronomic tourism (UNWTO, 2012, 12).

3.2. The importance of gastronomy for tourism in Croatia

The developed gastronomic offer in the tourist destination significantly contributes to the quality of the overall offer and encourages tourist consumption. It has many positive effects, such as contribution to the development of certain special interest tourism beyond the period of the main tourist season, encouraging the revitalization of rural areas, because these are often areas of authentic ambience and experience, etc. Local organic farming is also concentrated in these areas, so tourism development enables local producers to market their farmed products.

In the last 15 years, Croatia has improved the quality of selected agricultural products to a large extent, which has provided preconditions to become a recognizable gastronomic destination. At the international level, the awareness of tourists about the rich gastronomic heritage of all Croatian regions is also increasing, which is confirmed in the results of TOMAS research on the motivation and habits of tourists in Croatia done by Institute for tourism. According to this, research, there is an increase in the importance of gastronomy as a motive for coming to Croatia, which is shown in the Graph 1.

Graph 1: Motives of tourist arrivals in Croatia and average spending per tourist, 2007-2017
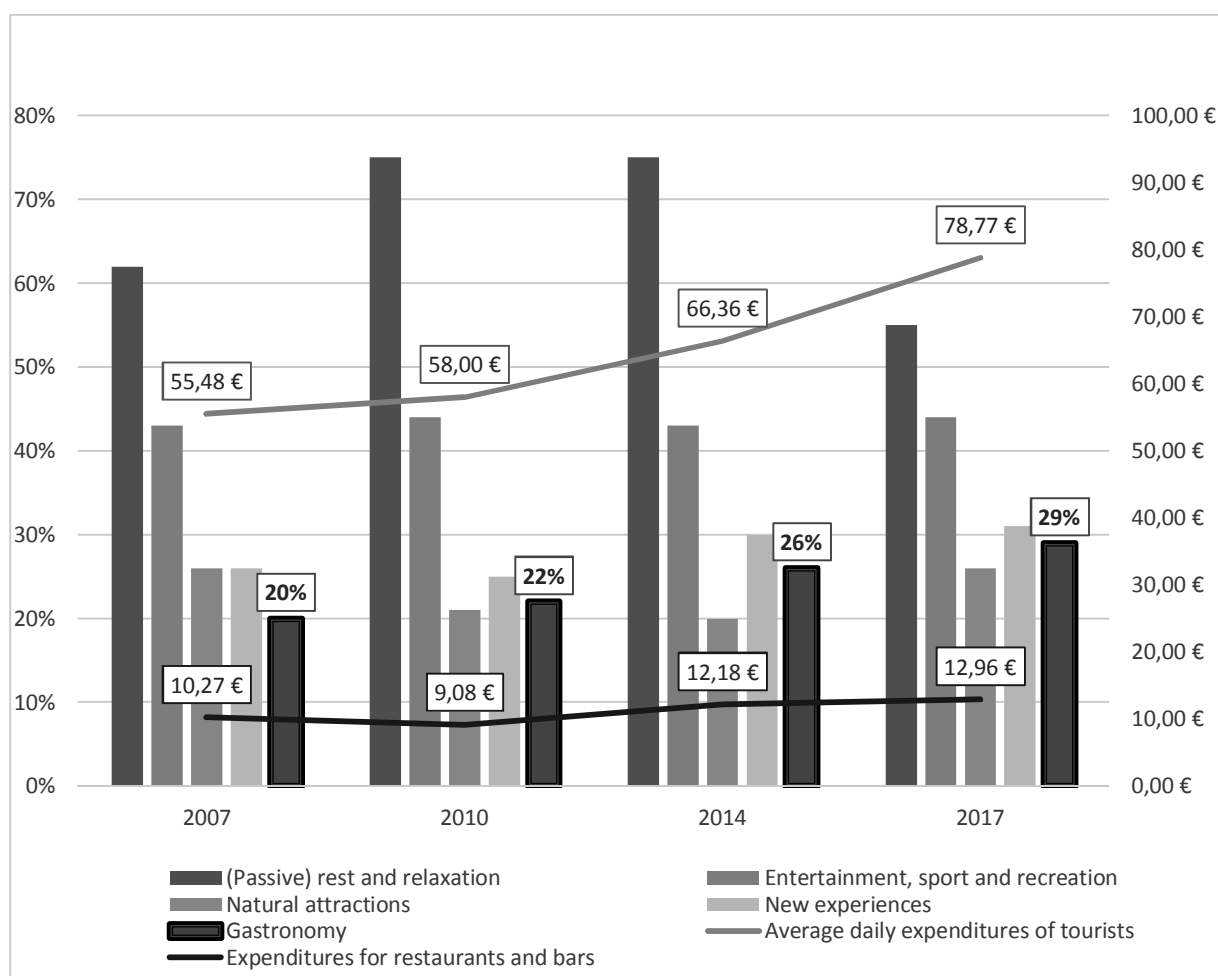
Source: Institute for Tourism, TOMAS Summer Survey - Attitudes and Expenditures of Tourists in Croatia, 2007 - 2017

In 2007, gastronomy was the fifth motive for coming to Croatia. In 2017, it was on the third place. Total tourist spending per person per day in the same period increased from € 55.48 in 2007 to € 78.77 in 2017. (IZTZG, TOMAS 2007 2011) According to the same source, there was a slight increase in tourists' consumption of food and drink outside the accommodation.

It is extremely important that the local stakeholders in the destination understand the importance of gastronomy, not only to stimulate tourist consumption but also to create unique tourist experiences that will ensure long-term competitiveness in the tourism market. In today's highly dynamic environment, it is necessary to provide a unique tourism experience based on heritage and tradition. In the last ten years tourism stakeholders in Croatia have recognized the potential of gastronomic heritage in positioning a destination and creating a recognizable identity in the global tourism market, which has resulted with an increasing number of exceptionally high quality and recognized small local producers of agricultural products, top restaurants, winners of prestigious Michelin stars as well as an increasing number of top eno-gastronomic events.

In 2020 seven Croatian restaurants is Michelin starred (restaurants Boskinac, Novalja and LD Terrace, Korcula awarded one prestigious star, while Noel in Zagreb, Draga di Lovrana in Lovran, Pelegrini in Šibenik, restaurant 360º in Dubrovnik and Monte in Rovinj have successfully retained their previous star awards. The Bib Gourmand list has ten restaurants in

2020, while the MICHELIN Plate label has a total of 53 restaurants (Michelin, 2020). Guide Gault & Millau presents the Croatian gastronomic scene worldwide, which makes Croatia recognizable food & wine destination. Gault & Millau Croatia 2020 The gastronomic guide in 2020 presented 202 restaurants, 82 POP restaurants, 101 wines and 20 hotels (Gault & Millau Croatia, 2020). This growth of international awards for local restaurants and chefs leads to better visibility of Croatia on a world gastronomy map. An important factor is also globally recognized Mediterranean cuisine, which is local, original and authentic in the Croatian coastal areas.

4. Mediterranean diet – underused resource for tourism development in Croatia

The Mediterranean lifestyle, as well as Mediterranean diet, is in the focus of numerous researches for many years. Some medical studies have shown that Mediterranean diet has many long-lasting health effects. The Mediterranean diet originates in the food cultures of ancient civilizations developed around the Mediterranean Basin and is based on the regular consumption of olive oil (as the main source of added fat), plant foods (cereals, fruits, vegetables, legumes, tree nuts) , and seeds), the moderate consumption of fish, seafood, and dairy, and low-to-moderate alcohol (mostly red wine) intake, balanced by the comparatively limited use of red meat and other meat products (Lacatus et al., 2019). In 2013 Mediterranean diet is being listed on the UNESCO's Representative List of World Intangible Cultural Heritage. It is a multinational enrolment encompassing communities and territories from seven Mediterranean countries (Italy, Spain, Morocco, Greece, Portugal, Cyprus and Croatia), representing skills, knowledge, practices, beliefs and traditions related to agriculture and fisheries, processing, preparing and especially consuming food. The Mediterranean diet is the part of the identity of the people living in the area, conditioned by different influences and cultures. The term Mediterranean Diet Derivatives from the Greek Diet: the Way of Life, the Connection between Spirit, the Body and the Environment1. It is not only a nutritional model, but a phenomenon of encompassing food production, marketing, consumption, conviviality, ritual and symbology of the Mediterranean, as well as Mediterranean cuisines and foods (Gonzales Turmo, 2012, 116).

One of the conditions for joining Croatia's initiative and joint candidacy was the inclusion of the Mediterranean diet on the national protection list. As in other countries in the Mediterranean region, in Croatia, the Mediterranean diet is integrated in the social, spiritual and material spheres of daily life (Ministry of Culture, 2013), which is evident in the customs and rituals, as well as in the language of the local people.

The Mediterranean diet is a part of Mediterranean lifestyle, and should be observed in broader context through the characteristic elements (Ministry of Culture of the Republic of Croatia):

- Coexistence with nature - the Mediterranean landscape assures the long-lasting connection between nature and human, which includes adaptation to climate and scarce resources such as water and arable land. The Mediterranean diet precisely inherits the knowledge and skills of attentive attitudes towards the natural sources that constitute the food source.
- Typical products and supplies - daily consumption is based on consumption local and seasonal supplies which include: olive oil, wine, fresh vegetables and beans, fresh or salted fish, cheeses mainly of goat or sheep's milk, dried meat and fresh or dried fruits. By favouring local production, the Mediterranean diet contributes to the preservation of old, indigenous varieties, traditional methods of food production and processing.

- Food preparation and knowledge transfer - The Mediterranean diet is part of unique lifestyle where food is extremely valued and never thrown away. The "common table" is an opportunity for the exchange and transfer of knowledge, as well as strengthening of community.
- Sociality - The Mediterranean lifestyle is reflected in numerous social activities related with food (e.g. joint meals, joint agricultural work, socializing in the tavern afterwards, etc.)
- Well-being - Mediterranean nutrition is a sustainable, social and cultural model of living in harmony with the environment. It involves physical indoor and outdoor activities, as well as a balanced diet, which are crucial factors for a quality life.

An important characteristic of the Mediterranean diet is very close connection with nature as a source of food. Agriculture and fisheries represent an important starting point for the overall development of the area. The Mediterranean diet model is the basis of the entire culinary system of the coast, islands and hinterland. The relationship between natural resources and human needs, and consequently human skills, reflects on the diet of the local people: it is a matter of living in harmony with the natural benefits. Beside the connection between nature and nutrition, there is also a social component, which was very important in the past, but is not negligible even today. Therefore, the diverse knowledge and skills associated with nutrition in the Croatian Adriatic need to be preserved and transferred on new generations so as not to be lost under the influence of the modern lifestyle. Food is an essential part of numerous festivities and events. It is an important component of tourism offer which can provide long-term positive effects for the destination.

5. Positive examples of eno-gastronomic offer in tourism in Croatia

Due to Perkov (2003) "the gastronomic offer of authentic, indigenous dishes should be used as tourism marketing brand, which means that by internationalizing local Mediterranean flavours, we can present our cultural roots more systematically to the world". The potential of Croatian gastronomy for tourism has been in the focus of researchers in last few years, due to the fact that food has become one of the important motives for travel. The research made by Leko Šimić and Pap (2016) was conducted with the aim of identifying key issues of positioning food as an important component and possibly a competitive advantage of Croatian tourism. Authors distributed questioners both on the supply and demand side, which enabled them to make a comparison of the supply-side perception of tourists' satisfaction and actual tourists' satisfaction with different aspects of food as a component of the tourism product in Croatia. Research results showed that that there is a strong potential to position Croatia as a value added gastronomic destination. Golob, Sirotić i Golob (2014) have researched the quality and the level of satisfaction of tourist in Umag. Research included 14 motives, and good food was on second place, graded with high 4.09 on the 5 point Likert scale. Same research showed that among the eight activities in destination included in the research quality of food in restaurants and richness of gastronomic offer are best rated (3.9 on the 5 point Likert scale). This is quite promising, but it also shows that there is still lot of work to do in improving gastronomic tourism offer in Croatia, since there is a difference in grade for food as motive for traveling (4.09.) and satisfaction of tourist with gastronomic offer in destination (3.9). Research results provided by Pranjić (2012) have shown that typical Dalmatian dishes and desserts are on average very poorly represented in Dalmatian taverns, while wines are relatively well represented. However, there are some positive examples which result with higher satisfaction of tourist. Two of them are shown and explained in the paper and can represent a starting point for entrepreneurs for

gaining ideas to create gastronomic offer which will be a competitive advantage for the destination and the whole country.

The potential of gastronomic heritage in Croatia provides exceptional opportunities for sustainable tourism growth and development. Quality and excellence should be an imperative when it comes to an authentic gastronomic story. Diversity of heritage and the way of life of local people represent a strong base for an authentic product. The increasing number of positive examples of products and events in tourism practice, based on gastronomic heritage, are evidence that Croatia can significantly improve its recognition and authenticity in the global tourism market.

Due to this fact, authors wanted to explore and present examples of good practice which could serve as benchmark for entrepreneurs and destinations while developing eno-gastronomic offer. In-depth interviews are the best method to understand the standpoint of the entrepreneurs who run chosen projects. To gain the primary research sample, authors used expert judgement method which provided 20 units in the sample. Second step included focus group with 10 students. Students were asked to grade authenticity, attractiveness and possibility of providing competitive advantage for every unit in the sample (there were 15 different elements graded). Three best rated units were planned to be interviewed, but only two interviews were conducted. In order to explore the motives and goals of launching top projects in Croatian tourism, based on tradition and local gastronomic heritage, interviews were conducted with the conceptual initiators of these projects. Ambitious individuals, dedicated to their work have realized the potential of gastronomic heritage for Croatian tourism, and have provided an added value and recognition of their destinations on the global level.

Chefs' Stage – International Gastronomy & Hospitality Congress

The leading gastronomy congress in Croatia and this part of Europe, which has takes place in Šibenik since 2018, has been recognized as a top gastronomic event that brings together numerous professionals in the hospitality and tourism industry, as well as related activities. Chefs' Stage functions as a kind of gastronomic platform aimed at connecting stakeholders in the hospitality industry and promoting local Croatian gastronomy in the world. The event was started by the owner and chef of the award-winning Pelegrini restaurant, Rudolf Stefan. His culinary philosophy is based on a creative blend of traditional and modern, and his gastronomic heritage is an inexhaustible inspiration. The Pelegrini Restaurant is Michelin starred. Several goals have been set in organizing this event. Chef Štefan emphasizes local Mediterranean and regional gastronomy, which is worthy of international attention, but also emphasizes the foundation for educating young talents in gastronomy and improving their knowledge at prestigious international culinary academies.

Also, one of the goals of this event is to gather as many prominent participants of the regional and international gastronomic scene as possible: chefs, hoteliers, premium food producers, suppliers, as well as guests and tourism journalists. Event emphasizes sustainability, gastronomic heritage and tradition, local food production and cultivation, and sharing of knowledge and experience in a friendly atmosphere among all related stakeholders. An important part of the platform is the Be Foodie Foundation, which provides funding for young talents aged 16 to 26 in the gastronomy and hospitality industry. In addition to its strategic partners, the Be Foodie Foundation has already sent 3 scholarship holders to prestigious international academies in the first year: Le Cordon Bleu Istanbul, Intrecci Academy and the Ecole Nationale Supérieure de Pâtisserie Ducasse & Thuries. The type of education and

institutes are selected by personalized approach so that the whole process of education and training is better suited to the skills and characteristics of the candidates. Every year, the event gathers more and more participants. Over 600 people participating in theme events, four masterclasses, six gala dinners at unique cultural heritage sites of the destination, some of which are part of UNESCO's protected cultural heritage in Croatia which shows the importance of promoting local gastronomic heritage and traditional culinary knowledge in the global eco-gastronomic scene. The idea of organizing such project came from need for a stronger promotion of Croatian gastronomy and fostering dialogue on the topic of gastronomic heritage, learning about traditional culinary knowledge, as well as polemizing about contemporary challenges and trends in the gastronomic scene.

Roxanich Wine & Heritage Hotel, Motovun, Istria

The concept of Roxanich Wine & Heritage Hotel is based on a blend of luxury in the hotel industry and top small wineries with a strong presence of tradition and cultural heritage in all elements of the business. Winemaker, Mr. Mladen Rožanić, in the small Istrian town of Motovun, decided to realize a truly special project in the hotel industry, related to the wine and gastronomic heritage of the area. The hotel is characterized by unique architecture adapted to the micro location and the area in which it is located. The hotel has 32 accommodation units within the 1902 Old Wine Cellar building, which are conceptually quite different. Particular emphasis in the facility is placed on the top quality of the gastronomic offer. In addition to the large hotel restaurant, the facility is special because of the fact that the wine cellar and premium wine production facility are located below the hotel. The winery and all the auxiliary rooms, including spaces intended for aging wine in barrels as well as the tasting room, are located on a total of five floors, partly buried in the grounds. The whole project is guided by the idea of integrating architecture into the environment and the local environment as much as possible. The winery in this unique project forms the basis of the whole project. According to the owner's vision, this concept has been planned and elaborated to the smallest detail, enabling one to provide a unique experience and experience for tourists - from the entry of grapes to processing, through vinification, maturing, packaging, wine tasting to top gastronomic offer in a hotel restaurant and dating premium local wines. The specialty of the cellar, which attracts attention and respect among top wine connoisseurs, is precisely the process of vinification with natural yeasts and spontaneous fermentation as well as the maturation of the wine.

This is exactly what makes the difference between an industrial winemaking and an original one with natural wines. This is a very demanding and unique project containing different components of the offer. Beside a top-notch gastronomic offer of a hotel restaurant and a wine shop, hotel has a polyvalent hall with a large terrace in natural environment, suitable for organizing numerous events, while the third is related to the experience of the "wine story" embedded in the wine cellar architecture. Stakeholders and members of the project team particularly emphasize the importance of elaborating the whole concept of the project, which aimed to tell a specific Motovun, local story. It is also a story of unique architecture and design embedded in the tradition and local culture of the area. The whole project is actually a group of different motives and unique experiences with experiencing spaces connected by tradition, culture and especially food and wine. This family, guided by the philosophy of an experienced Mr. Mladen in the wine business, has created and offered new, innovative concept of creating experiences and storytelling in tourism. The possibility of emphasizing the personality of the owners of small family hotels became a competitive advantage of this and similar stories in tourism.

Quality projects and events closely related to and motivated by gastronomy can contribute to raising the level of quality of gastronomic offer and better valorisation of gastronomic heritage in the overall tourism system. At the same time, sharing knowledge and assisting young people in their professional development, as in Chefs' Stage, gives added value and contributes to the competitiveness of the tourism product. Also, a special contribution to the realization of these and similar projects is reflected in raising the level of knowledge of the local population about the resource base of Croatian gastronomic heritage.

6. Conclusion

Famous English novelist and publicist George Bernard Shaw said that "There is no more genuine love than love for food." Today, gastronomy is among the leading motives for traveling. The importance of gastronomy in sustainable tourism development in Croatia is also increasing. The richness of gastronomic heritage and the possibilities of valorisation in numerous special interest tourism types, leads to conclusion that Croatia is an example of a destination that slowly builds its identity on the global tourism market based on various parts of its rich heritage, no longer relying solely on natural heritage. There are still many challenges when it comes to better use of cultural heritage in tourism. One of the key preconditions is to achieve a better recognition of the gastronomic heritage among the local population, as well as to achieve stronger cooperation of key stakeholders when it comes to the implementation of tourism projects. One of the important visions and goals set in the Tourism Development Strategy is establishing Croatia as a gastronomic icon of Europe. A key role in this process belongs to rich treasure trove of gastronomic heritage and local production, as well as authentic flavors. These original flavors represent the starting point for tourism marketing, which is visible in the Croatian Tourist Board's "Croatia - Full of flavors" promotional campaigns. The Mediterranean diet is one of the most famous in the world. Croatia inherits all its elements, conditioned by ecological, climate and cultural-historical factors. An additional motive for a stronger valorization and preservation of Mediterranean diet is the fact that it is on the UNESCO list of protected goods. An increasing number of initiatives for organizing events to promote and popularize local gastronomic heritage and other projects motivated by authentic gastronomy contribute to improving the quality of the tourism product and recognizing Croatia as a famous gastronomy tourist destination.

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A scientific paper

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DEMARKETING AS A STRATEGIC TOOL FOR SUSTAINABLE DEVELOPMENT OF TOURISM – THE CASE OF THE CITY OF DUBROVNIK

ABSTRACT

Aims of the paper: This paper aims to analyse the practice of demarketing as a tool for a sustainable tourism development strategy in the case of Dubrovnik tourist destination. This is a research area of particular importance in an era of growing concern for sustainable tourism development.

Methodology: The paper will analyse the strategic documents of the City's development as well as other demarketing practices in the destination in order to identify which model of demarketing (tourist flow management) is currently present in the Dubrovnik tourist destination. In addition, a comparative analysis will be carried out with several foreign tourist destinations.

Results: By analysing the available scientific literature, the authors will establish whether, and to what extent, the model presented differs from the so far known and researched similar models in the practice of tourism destination management. The purpose is to define conceptual frameworks for demarketing practices in tourism destination management that aim to "calm" tourist flows, particularly in sensitive tourist destinations. A limitation of the research is that the paper explores demarketing practices and tools in public sector institutions (city, tourist boards), but does not cover demarketing practices in private companies and other institutions. The authors suggest that the research area can be extended to include demarketing practices in the private sector as well as other related institutions, and that the analysis be extended to more case studies. The authors expect that this paper will assist tourism and other public policy makers in the presented and other similar tourism destinations in adopting effective sustainable development measures, as well as decision makers in strategic management in the private sector, particularly in the harmonization of private and public sector in achieving efficiency and sustainable tourism development.

Key words: *sustainable tourism, sustainable development strategies, demarketing, UNESCO protected cultural heritage sites, tourist destination management.*

1. Introduction

The focus of strategic management of sustainable tourism development is placed progressively on the level of tourist destination. Tourist destination becomes a key place and a "focal point" for tourism management of receptive community, but also a meeting point of all *stakeholders*

in the destination. In such way, the management of tourist destination is entrusted with and "responsible" for sustainable tourism development in receptive community, whereat, in addition to meeting the needs of tourist visitors, the needs of local population and investors, as well as other key *stakeholders* in the tourism system should be considered. In this context, it is quite justified that the key platform in considerations about directions of development in tourist regions is placed precisely on the level of tourist destination.

In the field of destination management, the interest of the scientific community and the professional public is focused on strategic development, sustainability management, branding and marketing of tourist destination and similar issues that are crucial for the development of touristic receptive community. However, in an age of increased concern for the limits of sustainable development, as well as observable tourist saturation of many world-renowned tourist destinations, which also means the loss of its basic attractiveness and significant weakening of the quality of life of local population, there is growing concern about the future of many developed destinations, so the attention is primarily drawn to sustainable development.

In this sense, it can be said that the sustainable development of tourist destinations has been under investigation for a long time, but when placed in the context and framework of strategic management, marketing and branding of tourist destination, it seems that there is a lack of systematic approach and that operational plans and actions in destinations are reduced to different individual cases in which each destination, in its own peculiar and specific way, addresses the problem of limits of tourist development and selective slowing of tourist growth, almost by the "trial and error" method.

In this regard, the aim of the research in this paper is to examine the extent to which the scientific community has responded to a question of systematic approach to sustainable strategic management and limits of growth in tourism, and to explore the same question on the example of Croatia's most famous and most developed tourist destination - the City of Dubrovnik. Accordingly, the paper will also compare several world tourist destinations that also face the issue of tourism overgrowth, followed by the case study of the City of Dubrovnik. The key strategic development documents of the City of Dubrovnik were analysed to examine which tourism demarketing activities were included in those strategic documents.

It is expected that this paper will contribute to a theoretical understanding of the issues outlined, but also to be a useful practical guide for makers of strategic decisions about economic and social development, both in the public and private sectors.

In addition to the theses on the recommended application of case study methods (e.g. Fullerton et al., 2010), the methodological framework for the research in this paper was created on the basis of guidelines for further research on the original article on demarketing of Kotler and Levy (1971), tailored to the destination management system, whereat the "companies" system was replaced by "destination management". It is a question of the following research guidelines: "… 1. What demarketing policies and instruments are commonly used by these companies? How do companies reduce total denial and selective demand? How do they allocate scarce products? What are the optimal marketing policies for different demarketing situations? (Kotler & Levy, 1971, 80). "These are also the key research issues addressed in the paper, customised for the strategic management system in tourist destinations on the example of the City of Dubrovnik.

2. Demarketing and the limits of growth

In studying the scientific literature, which would denote a new paradigm of growth with one term and concept, by which the growth, being paradox in terms of economic development, is stopped or slowed down, has led us to the concept of demarketing. Demarketing seems to be one, if not the only, unambiguous term denoting conscious activities to stop, select or slow

down demand, driven by the concern for sustainable development and the rapid growth of demand and accordingly consumption. This concept is first revealed in the previously mentioned, well-known article by Kotler & Levy, 1971, Demarketing, Yes, Demarketing, whose thesis is based on the work of Luke from 1969, in which he advocates a broader view of marketing paradigms, introducing a new, social dimension into marketing. Kotler's & Levy's paper was published a year before *Limits to Growth*, a very early portent of the current agenda.

In april 1968, a group of thirty individuals from ten countries-scientists, educators, economists, humanists, industrialists and national and international civil servants-gathered in the *Accademia dei Lincei* in Rome. They met at the instigation of Dr. Aurelio Peccei, an Italian industrial manager, economist, and man of vision, to discuss a subject of staggering scope-the present and future predicament of man…Out of this meeting grew *The Club of Rome*, an informal organization that has been aptly described as an "invisible college." Its purposes are to foster understanding of the varied but interdependent components-economic, political, natural, and social-that make up the global system in which we all live; to bring that new understanding to the attention of policy-makers and the public worldwide; and in this way to promote new policy initiatives and action. ("The Limits to Growth", Meadows et al., 1972.). Members of the *Club of Rome* have published a book, "The Limits to Growth", which has become synonymous with sustainable economic development. Moreover,since the 1972 publication of the *Club of Rome* study *Limits to Growth* the term has come to refer to both population and economic growth – that is, growth in population and growth in per capita resource use, the product of which gives the growth rate of total resource use. This total resource use is a flow from nature's sources (mines, wells, forests, fisheries, grasslands), through the transformations of production and consumption within the economy, and back as wastes to nature's sinks (atmosphere, oceans, a neighbor's back yard). … The limits to growth, in twenty-first century usage, refers to the limits of the ecosystem to absorb wastes and replenish raw materials in order to sustain the economy (the two populations of dissipative structures). The economy is a subsystem of the larger ecosystem, and the latter is finite, non-growing, and, in terms of materials, closed. (https://www.encyclopedia.com/social-sciences/encyclopedias-almanacs-transcripts-and-maps/limits-growth)

The report of the *Club of Rome* "Limits to Growth" was not the first document presented to the world public which forewarned that the existing world economic system as a whole, capitalist and socialist, was unable to secure the future of humanityThe "Limits to Growth" is written based on the first numerical model of the world economy, developed by Jay Forrester of the Massachusetts Institute of Technology (MIT). The model demonstrated a catastrophic image of the linear extrapolation of the then prevailing world economy and became a world advocate of zero-growth (Pravdic, 1993, 358). In view of the many controversies that the model of limits of growth has caused, seventeen years later the *Club of Rome*, with the review of E. Pestel, revised many of their standpoints. It is important to mention that the *Club of Rome* has since abandoned the imperative of zero growth. (Pravdic, 1993, 359).

Pravdic (1993, 359) notes that, in the report of the Brandt Commission (ICIDI, 1980), among other things, it is explicitly stated: "It can no longer be maintained that environmental protection is a constraint on development. On the contrary, the natural environment is an important development factor." It should be pointed out that the international community has developed the concept of sustainable development through a series of, mainly political, recommendations for further activities. However, it is up to the sciences to determine indicators for identifying and assessing the sustainability of development and find ways in which they can be implemented. "This seemingly routine task has many limitations."(Pravdić, 1993, 357)

In this regard, Kotler and Levy place marketing in the context of the limits of growth, introducing the term and concept of demarketing. They are actually "pushing the field of

marketing in new directions" (Harris, 2007, 7). In studying Levy's work, Harris states that Levy, while reconsidering the existing marketing paradigm, has added an interdisciplinary perspective to solving marketing problems, ... and that "encouraging philosophical pluralism" is in marketing (Harris, 2007, 7).

Kotler, in his later review titled *Welcome to the Age of Demarketing*, states: "Today many people are concerned about the planet's" carrying capacity "to provide the resources on the scale needed to support the world's growing populations and the needs of these and future generations. The "ecological footprint" concept says that we would need the equivalent of six to eight more earths of resources if all people in the world want to achieve the US living standard at the current rate of resource consumption. One generation can exploit existing resources - oil, water, air, timber, fish - so intensely that the next generation is doomed to accept a lower standard of living. (Kotler, 2017) It can be seen that the essential concept of demarketing is based on sustainable approach to production and consumption, whereat "ecological footprint", that is, concerns about (uncontrolled) growth in consumption and thus the limit of growth are added to marketing activities.

It should be noted that there is a link between demarketing and social marketing. Kotler i Zaltman (1971) navode definiciju Social marketinga: "Social marketing is defined as the design, implementation, and control of programs calculated to influence the acceptability of social ideas and involving considerations of product planning, pricing, communication, distribution and marketing research." In that regard, the following considerations are also interesting: "Social marketing is an approach used to develop activities aimed at changing or maintaining people's behaviour for the benefit of individuals and society as a whole. Combining ideas from commercial marketing and the social sciences, social marketing is a proven tool for influencing behaviour in a sustainable and cost-effective way." (https://www.thensmc.com/content/what-social-marketing-1)

It is clear that social marketing promotes the social idea of sustainable development, while demarketing reconstructs the existing marketing paradigm by implementing the idea of sustainable growth into a marketing concept. In the aforementioned article, for which there is a general consensus that it is a pioneer in demarketing, Kotler & Levy state: "Popular conception on marketing is that it deals with the problem of furthering or expanding demand" (Kotler & Levy, 1971, 75). They define the term demarketing as the term opposite to the above, and state that demarketing is "the aspect of marketing that deals with discouraging customers in general or a certain class of customers in particular on either a temporary or a permanent basis." (Kotler & Levy, 197, 76) The authors list and describe three types of demarketing:

1. General demarketing, which is required when a company wants to shrink the level of total demand,
2. Selective demarketing, which is required when a company wants to discourage the demand coming from certain customer classes,
3. Ostensible demarketing, which involves the appearance of trying to discourage demand as a device for actually increasing it. (Kotler & Levy, 1971, 76).

It is interesting to point out that the same authors identify both the short-term (tactical) and long-term (strategic) dimensions of demarketing, stating: „Its short-run task is to adjust the demand to a level and composition that the company can, and wishes to, handle. Its long-run task is to adjust the demand to a level and composition that meets the company's long-run objectives. (Kotler & Levy, 76.)"

There followed analytical studies on the application of demarketing, first and foremost, in business entities – companies and firms, as part of promotion as an element of the marketing mix, but also as part of a differentiation strategy (e. G. Gerstner et al., 1993). Among the first studies are those in the health sector, where demarketing is presented as means for reducing smoking and inappropriate health care consumption. (e.g. MacStravic, 1995; Lawther et al.,

1997) Lawter et al. are committed to implementing demarketing strategies that will „ensure that none of the parties involved would be inconvenienced or disadvantaged" (Lawther et al., 1997, 315). In their book *Demarketing*, Bradley & Blythe state that "there is no typology of marketing" and that demarketing is a segment of strategic marketing. They state that „demarketing can…curtailing demand, yet (crucially) not destroying it" (Bradley & Blythe, 2014, 1). Today, part of the research focuses on the so-called *green demarketing* (e. g. Armstrong Soule & Reich, 2015)

There is a generally accepted consensus among authors that there is no conceptual framework for demarketing: its limits are unknown, and there is a problem of its generally accepted definition.

3. Strategic approaches to tourism demarketing

Works about the area of tourism sustainable development date some twenty years back. Among the first to approach the issue of the limits to tourism growth in a more systematic way were Beeton and Benfield who state that their paper from 2002 "introduces 'demarketing' as a policy option and management tool…"and advocate the fact that "demarketing can be applied to tourist management and planning" (Beeton & Benfield, 2002, 497). The same authors are strong advocators of demarketing in tourism stating that „The implications (of demarketing strategy) for the tourism industry are enormous, providing fresh ways to consider the management of mass tourism and the environment and culture on which it relies." (Beeton & Benfield, 2002, 497). On the other hand, Medway and Warnaby declare that their work "provides a unique counter to the 'conventional wisdom' of place marketing by introducing the concept of place demarketing…which more explicitly accentuate the negative, rather than accentuating the positive which is the norm in this marketing context" (Medway & Warnaby, 2008, 641). The first destinations to have studied visitor management and visitor impact are: Scotland, Canada, Australia and New Zealand. (Garrod et al., 2006; Leask & Fyall, 2006).

As the most significant theoretical model for the research in this paper and as the most relevant for the investigated issues, the authors chose the thesis of author Sadiki (2012), who studies sustainable tourism in WHS (World Heritage Sites), whereat the Visitor Management area is of particular importance. He recommends demarketing as a desirable direction for sustainable tourism development, citing Fullerton et al. (2010), that there are five models of a demarketing strategy:

1. "educating potential visitors,
2. marketing to desirable markets sites which allows sites to attract conscientious visitors, treating a site with respect,
3. to publicize other sites as alternative destinations; this would spread the number of tourists over a broader area decreasing environmental impact on one particular site…which is particularly effective in condensed areas,
4. to utilize a seasonal schedule for access, which allows tourists to visit during certain parts of the year, while also allowing the site "off season" time for preservation efforts to take place,
5. to make access to fragile areas difficult or restricted" (Sadiki, 2012, 22-23).

Mason (2005) previously states a subtler classification of demarketing activities and cites Kuo (2002) who advocates a "hard" and "soft" approach to tourism demarketing, which is also viewed by both authors primarily through a prism of visitor management. He states the following: 'Hard' visitor management approaches involve physical management, regulatory management and economic management. 'Soft' approaches make use of education and interpretation… While the approach of managing impacts has its merits, and has met with some success, it has tended to assume that the visitor is 'guilty until proven innocent' (Mason, 2005,

181). By exploring in his work approaches to visitor management in protected natural areas in New Zealand, Australia and Antarctica, the same author advocates "more holistic perspective to be employed, in which the visitor can be put within a context that includes both the destination community and the environment visited. Such an approach, it is argued, should not only lead to better informed and behaved visitors, but a reduction in negative visitor impacts." (Mason, 2008)

Similarly, in the paper of Medway et al. there are several strategies within the place-demarketing process: „No marketing; redirection/marketing alternative places; informational place demarketing; restricting access; and pricing mechanisms" and proceed: „Four main rationales for demarketing places were identified: sustainability of the place product; market segmentation and targeting; reducing the effect of seasonality; and crisis prevention/management." (Medway et al., 2010, 124)

The findings of the empirical research in this paper should answer whether Dubrovnik "fits into" the models presented with its demarketing activities. The findings of the comparative analysis should contribute to understanding whether there is specificity in particular types of tourist destinations in the application of the marketing strategy.

4. Consequences of Overtourism and Management Responses - comparative analysis

In considering the causes of overtourism, it is important to recognise that tourists and day visitors are not the only users of the destinations where over tourism is emerging as an issue – overcrowding on public transport is both experienced and caused by locals, commuters, visitors and tourists and compounded by a lack of infrastructure investment. Tourism can displace other commercial activities and colonise residential areas so that, for example, in 2012 Venice now has a residential population of 57,000, down from 174,000 in 1951, in 70 years Venice has lost two-thirds of its resident population, displaced by tourism. Tourism is the commercial monoculture of Venice. (Goodwin, 2017, 15)

The growth in tourism is driven by forces over which local governments have no control over the numbers arriving. In Barcelona and Venice, the day visitors arrive by coach, cruise ship, train or plane in numbers which the city government cannot control. The management of this infrastructure which makes mass tourism possible is in the hands of national government which receives much of the tax but does not have to manage the impacts. The political pressure of street demonstrations and elections is directed at local politicians who do not have the levers to reduce demand, although Barcelona is rebalancing its tourism budget to spend more on management and less on promotion. The focus on ever-increasing international visitor arrivals, rather than yield, the economic benefit of tourism, has distorted the way that national policymakers are judged on their tourism stewardship. Using Gross Value Added would be a significant improvement, a cost-benefit analysis or a net value figure for tourism would make for better decision-making. (Goodwin, 2017, 13)

There follows a comparative analysis of demarketing in several selected tourist destinations facing the phenomenon of overtourism, according to Goodwin (2017).

Table 1: Selected tourist destination facing the phenomenon of overtourism classified by prevailing responses to this phenomenon

Public Protests	Government taking action	Issue raised
Barcelona, Venice, San Sebastian, Berlin, Palma (Mallorca), Iceland	Iceland, Seoul, Cinque Terre, **Dubrovnik,** Amsterdam	Scotland: Edinburgh, Orkney & Skye ; Italy: Florence, Palermo, Capri; Ireland, Balearics, England, Halong Bay; Rio, Brazil; Peru, Portugal; USA; Cuba, China, Everest, Prague, **Croatia,** Crete

Source: author's adaptation according to Goodwin, 2017, 14

Table 2: Actions reported in the media or published – comparative analysis of selected tourist destinations

Czech Republic	
Prague	Prague bans Segways from historic city centre's narrow streets
Croatia	
<u>Dubrovnik</u>	**Seeking to be a top-quality destination** **CCTV cameras would be introduced to monitor – and, if necessary, stop – crowds passing through the city's three gates.** **Cancelling cruise ship stops cutting the number of cruise ships arriving at peak time and attempt to move them away from peak times, such as the weekend.** **Impose limits on tour operators running day trips to the city.**
Hvar	Plans to fine lewd, rude and drunk tourists
Denmark	Forbids foreigners from buying houses in coastal areas or along its beaches.
Copenhagen	Establishment of new bars and restaurants has been prohibited
Iceland	Official registration for home sharing and business licenses for people who rent out their accommodation for more than 90 days a year or make more than about $18,000 in rental income. The government has also taken measures to upgrade Iceland's roads, bridges and parking lots. Responding to outrages over bad tourist behaviour, it has put more toilets and garbage cans in the countryside.
France	
Paris	Timed ticketing at the Eifel Tower
Greece	
Crete	has banned 10,000 18-30 British holidaymakers
Holland	
Amsterdam	2016 Banned Beer Bikes Zandvoort was renamed Amsterdam Beach to attract visitors The range of the City Card was extended to encourage visitors to travel out. Video streaming the queues outside the major sites and attractions Experimenting with updating residents on crowding Introducing a 24hr hotline for residents to raise concerns about Airbnb properties.
Italy	
Cinque Terre	Numbers capped with an online ticketing system
Florence	Mayor hosing church steps to deter tourists for picnicking there
Santorini	Limiting boat arrivals to 8,000 per day
Venice	Tourism squeezed out residents and created a monoculture Authorities are banning new accommodation from opening up in the historic centre Locals have privileged access to vaporetti Discussions about capping numbers in to Piazza San Marco Attempts to ban cruise ships
Peru	Machu Picchu to introducing timed ticketing
Spain	
Barcelona	Overcrowding, social conflict and tourist phobia Unable to control arrivals Loss of identity, trivialisation and uniformity of the city Poor quality jobs Not scapegoating tourists – conceptual shift to managing visitors Territorial deconcentration/decongestion Management of sites and transport Taking responsibility for managing tourism so that it is sustainable Managing visitors rather than tourists Joined up governance based on publicly shared date and intelligence Continuity of policy Using marketing to attract particular segments Rebalancing from promotion to managing and planning Moratorium on new hotel licences "Inseparable pairing" between sustainability and competitiveness

	Clamping down on unregistered and illegal apartments - managing and taxing new forms of accommodation and seeking the support of tourists and the local community to identify illegal lets. SmartCitizen 'ambiental monitoring' kits sensors to monitor noise and pollution levels and generate statistical evidence of tourists' impact on the quality of life of local residents
USA	
Whistler	Has had a bed unit cap since 1976 Building restricted accommodation for staff

Source: Goodwin, 2017, 16, devised by authors

5. Demarketing as a strategic tool for sustainable development - case study – the City of Dubrovnik

A qualitative analysis of the case study of the City of Dubrovnik, Croatia's most developed tourist destination which most famous attraction - the Old Town of Dubrovnik - , has been included in the UNESCO-listed WHS - World Heritage Sites since 1979, is presented in this section of the paper.

Table 3 shows a qualitative analysis of the strategic documents of the City of Dubrovnik with a specification of sustainable tourism development activities. It is an analysis of four key strategic documents of the City, which include the measures for sustainable development of tourism that were adopted for different strategic periods. The following were analysed for each document: the period for which the document was adopted, the governing body that adopted it, the area of activity, the specification of activities, the modes of implementation of individual groups of activities and the performance indicators, which is very important for the possibility of systematically monitoring the achievement of strategic activities defined by the plans.

Table 3: Qualitative analysis of strategic documents of the City of Dubrovnik with a specification of activities for sustainable tourism development

Strategic document	Period for which the document is brought/will be brought	Which body adopted the document	Area of activity	Specification of activities	Methods of implementation	Performance indicator
Strategic plan of the City of Dubrovnik 2018-2020[1]	2018-2020	City Council of the City of Dubrovnik	Destination management	1. Promotion of tourism through the following activities: winter festival, development of projects to promote cultural tourism and implementation of the project "Respect the City". 2. Establishing the concept of a smart city 3. Improvement of transport infrastructure, water management and environmental protection (noise and waste management)	1. Improvement of the city's tourist offer through the implementation of joint programs with the Dubrovnik Tourist Board, incentives for improving the tourist season (establishment of new routes), encouraging the development of rural tourism (preparation of a status analysis, info workshops and payment of support to farms), cultural programs and events (organised also in foreign languages), winter festival (extending the offer in winter), developing the promotion of cultural tourism project (project 2nd Chance funded by URBACT III program) 2. Implementation of the project "Respect the City" - Phase I of the project accomplishment, development and implementation of the Office for Management and Development of the Smart City Dubrovnik ("DUSC Office of the Smart City") and the establishment of	1. Increase in number of overnight stays 2. Number of implemented projects 3. Percentage of completion of road construction activities and related infrastructure, construction of drainage and percentage of completion of projects related to environmental protection

Strategic document	Period for which the document is brought/will be brought	Which body adopted the document	Area of activity	Specification of activities	Methods of implementation	Performance indicator
					the digital platform of the Smart City Dubrovnik. 3. Investments in road infrastructure, resolving of water supply problems in different areas of the City of Dubrovnik, development of environmental protection programs, noise protection and development of waste management plan	
Tourism Development Strategy and Cruise Tourism Provisions in the City of Dubrovnik (Phase 1)[2]	2016-2025	City Council of the City of Dubrovnik	Management of tourism development in the City of Dubrovnik and Cruise Tourism Provisions in the City of Dubrovnik	1. Strategic and individual goals of tourism development in the City of Dubrovnik by 2025 (achieving long-term sustainable and competitive tourism in the international tourism market while preserving the authenticity and admiring the tradition and respecting the needs of the local population, strategic analysis, planning and management of security risks in the destination, continuous work on quality in all aspects of creating the tourist offer and services with the aim of increasing tourist consumption and extending the season to year-	This document is the first stage of the development of the Tourism Development Strategy and does not contain a part related to the methods of implementation (the methods of implementation will be anticipated in the *Respect the City* action plan)	This document is the first stage in the development of the Tourism Development Strategy and does not contain a part related to performance indicators (performance indicators will be anticipated in the *Respect the City* action plan)

[2] Tourism Development Strategy and Cruise Tourism Provisions in the City of Dubrovnik (Phase 1), https://zod.hr/lang/13/user_files/toni/plan%20upravljanja%20dokumentacija/039_strategija_turizma_2017i_faza.pdf (accessed January 15, 2020.)

Strategic document	Period for which the document is brought/will be brought	Which body adopted the document	Area of activity	Specification of activities	Methods of implementation	Performance indicator
				round business by developing selective forms of tourism, improving the level and structure of quality of all accommodation capacities and adapting quality criteria to international standards and uniform spatial development in the area of the City of Dubrovnik, investment and improvement of existing and development of new transport infrastructure and optimal organisation of transport, strengthening of educational institutions with investment in human resources trained in tourism business and continuous training and motivation of local population 2. Management, coordination and advisory body *Dubrovnik Cruise Management Centre*		
Respect the City / *Respect the City – proposal*	2018-2020	City Council of the City of Dubrovnik	Establishment of models and bodies of good governance for the tourist	1. Establishment of an advisory body and a project office 2. Defining priorities and indicators 3. Establishment of working groups and project partnerships	In preparation	In preparation

Strategic document	Period for which the document is brought/will be brought	Which body adopted the document	Area of activity	Specification of activities	Methods of implementation	Performance indicator
for an action plan[3]			destination (sustainable development of tourism as a sector, sustainable use of the resource base and sustainable development of people, economy, community)	4. Improvement of the monitoring system 5. System of prevention, restriction and guidance 6. System of alternative attractions 7. Informing and training stakeholders 8. Action plan for 2019 and 2020 9. Management plans 10. Establishment of an international project partnership for sustainable and responsible tourism 11. Developing a destination brand of sustainable and responsible tourism 12. Testing the visitor management system, destination experience and development 13. Sustainable and responsible tourism products tested, evaluated and promoted 14. Awarding sustainable and active tourism certifications to the most active stakeholders		
Management plan for	2020-2025	The concept of the	Management of the	15. In preparation	In preparation	In preparation

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[3] Respect the City, https://zod.hr/get/plan/55681/grad_dubrovnik.html (accessed January 15, 2020.)

Strategic document	Period for which the document is brought/will be brought	Which body adopted the document	Area of activity	Specification of activities	Methods of implementation	Performance indicator
the protected monuments of the City of Dubrovnik[4]		management plan was adopted by the City Council of the City of Dubrovnik	protected monuments of the City of Dubrovnik			

[4] Concept of the management plan for the protected monuments of the City of Dubrovnik.
https://zod.hr/lang/13/user_files/toni/plan%20plan%20dokumentacija/046_koncept_plana_upravljanja_zasticenom_spomenickom_cjelinom_dubrovnika_2017.pdf
(accessed January 17, 2020.)

6. Research results and discussion

Based on the above mentioned basic models of demarketing in tourist destinations, an overview (Table 4) was carried out as to what extent and in what way a demarketing strategy was implemented in the strategic documents of the City of Dubrovnik, with the aim of sustainable tourism development and visitor management. Ongoing activities or the already completed activities are presented, while the strategic analysis of documents and projects under development is omitted.

Table 4: Presentation of implementation of demarketing strategy in tourist destinations in the strategic documents of the City of Dubrovnik according to three theoretical models

Author – strategic model	Demarketing strategy models – areas of activity	Strategic document and period	Specification of activity	Methods of implementation
Fullerton et al., 2010; Sadiki, 2012 – model 5 demarketing strategy	1. educating potential visitors, 2. marketing to desirable markets sites which allows sites to attract conscientious visitors, treating a site with respect, 3. to publicize other sites as alternative destinations; 4. to utilize a seasonal schedule for access, which allows tourists to visit during certain parts of the year, while also allowing the site "off season" time for preservation efforts to take place, 5. to make access to fragile areas difficult or restricted	Strategic plan of the City of Dubrovnik 2018 - 2020	1. Development of cultural tourism promotion projects 2. Implementation of the project "Respect the City" 3. Rural development tourism 4. Winter festival, 5. Establishment of the concept of a smart city	1. Cultural programs and events in Croatian and foreign languages 2. Phase 1 of the implementation of the project "Respect the City" 3. Rural tourism development 4. Realisation of the winter festival 5. Establishing a digital platform for the smart city Dubrovnik
		Tourism Development Strategy and Cruise Tourism Provisions in the City of Dubrovnik (2016-2025)	1. - 2. Preservation of authenticity and respect for tradition 3. Development of selective forms of tourism 4. Management, coordination and advisory body Dubrovnik Cruise Management centre	
Mason (2005) – hard and soft demarketing model	1. Hard approach: physical management, regulatory management and economic management 2. Soft approach: use of education and interpretation	Strategic plan of the City of Dubrovnik 2018 - 2020	1. Improvement of transport infrastructure, water management and environmental protection (noise	Establishing a digital platform for the Smart City Dubrovnik, investments in road infrastructure, solving

			and waste management) 2. Development of the cultural tourism promotion project, implementation of the project „Respect the City", Rural tourism development, Winter festival	problems of water supply in different areas of the City of Dubrovnik, development of environmental protection programs, noise protection, development of waste management 2. Development of rural tourism and cultural tourism Under development
		Tourism Development Strategy and Cruise Tourism Provisions in the City of Dubrovnik (2016-2025)	1. Analysis, planning and management of security risks in the destination, balanced spatial development in the City of Dubrovnik, investment and improvement of existing and development of new transport infrastructure and optimal organisation of transport, the governing body *Dubrovnik Cruise Management Center* 2. Continuous work on quality in all segments of the tourist offer, strengthening of educational institutions with investment in human resources, continuous education and motivation of the local population	
Medway et al., 2010 – model of five strategies in the	1. no marketing 2. redirection/marketing alternative places	Strategic plan of the City of Dubrovnik 2018 - 2020	1. – 2. Rural tourism development 3. –	6. – 7. Encouraging the

place-demarketing process	3. informational place demarketing 4. restricting access 5. pricing mechanisms		4. Establishing the concept of a smart city 5. (covers private sector)	development of rural tourism 8. - 9. Implementation of the smart city project 10. (covers private sector)
		Tourism Development Strategy and Cruise Tourism Provisions in the City of Dubrovnik (2016 - 2025)	1. – 2. Development of selective forms of tourism 3. – 4. Managing body Dubrovnik Cruise Management centre 5. (private sector)	

Source: Authors' research

Based on the conducted comparative analysis of selected tourist destinations (Goodwin, 2017) in Tables 1 and 2, it can be concluded that there is an increasing number of developed tourist destinations that face the problem of overtourism, and they all try in their own way to find different measures and activities seeking to respond to this phenomenon, thus confirming the author's thesis, cited in the introduction, that there is no universal, commonly applicable strategic model of demarketing for developed tourist destinations. It is interesting to note that these measures are most often operational or tactical, so it is important to set them at the strategic management level.

By investigating the case study of the City of Dubrovnik, it was perceived that there were as many as four strategic documents of the City which include different forms of demarketing i.e. measures aimed at sustainable tourism development. It is noticed that some of these documents are still being prepared, so it can be concluded that Dubrovnik, driven by the phenomenon of overtourism, has only recently started implementing measures for demarketing and sustainable development of destination.

Finally, by examining the extent to which the case of Dubrovnik "fits" into three theoretical models of demarketing in tourist destinations observed, we concluded that almost all of the proposed areas of activity were covered in the case of Dubrovnik. The area that has not been implemented is No marketing (the first strategic direction according to Medway et al., 2010), and the area not covered by this analysis is Pricing mechanisms, as it relates mainly to the private sector.

Particularly noteworthy is the interesting division of directions of demarketing activities according to Mason (2005) into hard and soft demarketing, and in the case of Dubrovnik special mention should be made of planned activities in terms of soft demarketing, such as: educating the population and staff in tourism, investing in the quality of facilities, developing cultural, rural and other selective forms of tourism and the like.

From a theoretical point of view, it should be emphasised that, although only three observable theoretical models of demarketing are elaborated in this paper, each contemporary, new age also brings new challenges, so the observed models should be expanded by new strategic directions that will cover new fields of activity, which in the case of Dubrovnik has been partly implemented, such as, above all: security risk management, the introduction of smart cities technology and sustainable space management. The paper therefore proposes the expansion of the conceptual framework of demarketing, aimed at sustainable development of tourist

destinations, with these three areas of activity, which at the same time represents the basic scientific contribution of this paper.

Guidelines for further research stem from the limitations already outlined in the paper. Therefore, further research is proposed in the following areas: extension of the conceptual framework of strategic action in demarketing and sustainable development of tourist destinations, extension of the research to private sector entities and tourist communities, as well as stakeholder coordination models in tourism destinations for sustainable development, specificities of sustainable development tourism in UNESCO-protected tourist destinations (so-called WHS - World Heritage Sites), coordinated development of demarketing activities and other sustainable development activities in tourist destinations and the like. The authors agree with the thesis of other authors (e.g. Fullerton, 2010) who consider that this topic is insufficiently addressed and that the case studies, comparative and other qualitative analyses are used as methodological tools.

7. Conclusion

One of the basic concerns of all policy makers and strategic decision makers is sustainable development. The limits of growth are becoming one of the key issues in every field of human activity, including tourism. When it comes to conscious management efforts to replace the basic economic paradigm of uncontrolled growth with a new one, which is sustainable development, it can be said that this paradigm shift was created by the establishment of the Rome Club in 1968, but in the scientific context of controlled (and controlling) demand, it was introduced in 1971 by authors Kotler and Levi who presented the term demarketing. Although marketing cannot cover even closely all areas of strategic action towards sustainable development, this concept has served theorists and practitioners as a starting point for management actions in this regard. Therefore, this approach has been used in this paper, which is supported by a few theorists who advocate the application of demarketing in the function of sustainable development in tourism, specifically in the field of destination management and development. In that context, the practical implications of this paper are the following: the paper provides an overview of organized efforts of the social community in terms of sustainable tourism development by defining the limits of tourist growth of a well-known tourist destination - the City of Dubrovnik. This model can serve as a starting point for other similar destinations that also face the problem of overtourism, but it can also serve as a basis for further development and development of the model in the destination itself. It can certainly be useful as a guidepost to other tourism stakeholders - those in neighboring tourist destinations, private sector stakeholders, higher-level decision makers and the like, to direct their activities in the development of sustainable tourism. It is particularly important to emphasize that the presented overview of strategies and tactics of demarketing in tourism in Dubrovnik are also valuable tools - in-depth analysis of the current situation and planned activities - in further strategic directions of strategic decision makers in tourism, primarily the City of Dubrovnik, the Dubrovnik Tourist Board, as well as other stakeholders in the public and private sectors (Port Authority, County Tourist Board, etc.).

By analysing several case studies - tourist destinations that have reached the limits of growth - it can be concluded that destination marketing activities are often made at the tactical as well as operational level, while at the same time there is a significant research gap and a lack of literature and thus a solid conceptual framework in this area. The paper analyses the case of Dubrovnik as a destination that has found its way how to cope with the overdevelopment of tourism, and which, although at the beginning of this journey, has successfully implemented various strategic directions towards controlled tourist development of destination. As it is a

question of a highly successful, most famous tourist destination in Croatia, which has been under UNESCO protection for many decades, it is not surprising that there is a sufficiently developed level of awareness of sustainable development of tourism in that destination.

In this regard, guidelines for further research are also proposed. By resenting an interesting case study of the application of demarketing, for the purpose of sustainable tourism of a particular destination, the authors contributed to the still underdeveloped area of research on sustainable tourism development and its link with concrete measures, activities and strategic guidelines. For this reason, the authors agree with most of the theorists in this field who propose that scientific theory be built through descriptions and comparisons of individual case studies, which will lead to new scientific insights. Therefore, in the authors' opinion, future research should focus on the portrayal of other tourist destinations and their activities (through de-marketing, but also through other strategic guidelines) and on their comparison at domestic and international levels. This is certainly a good way to find the right balance model in the efforts of all stakeholders to align their interests in sustainable tourism. The research area follows two directions: demarketing in natural protected areas and demarketing in cultural protected areas. Generally speaking, these, more developed models of strategic demarketing and other strategic activities in tourist destinations could then become one of the starting points for the development of strategies and policies of tourism development at the county, national and international levels (e.g. EU, UN and similar).

Certainly, it can be concluded that marketing is not the only one, but it is probably a central concept when it comes to sustainable tourism development, especially in fragile tourist destinations such as natural or cultural protected areas. However, success in this regard can only be achieved through a synchronised action by all stakeholders involved, as defined by the 17th UN Sustainable Development Goal: Partnership for the goals. Or, as Sadiki writes: "Tourism is what we make it, hosts and guests, the industry and government, we can make it different."

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THE MEASUREMENT OF TECHNICAL EFFICIENCY BY non-radial NR-DEA model IN FOOD PROCESSING SECTOR

ABSTRACT

The issue of efficiency of food processing enterprises is ever-present because of the continuous process of improving the quality standards of raw materials, complying with the procedures in food production, introduction of modern production technology and, above all, due to the large number of actors who are competing for customers in the domestic and foreign food market.
In the coming years Polish food processing sector will be facing significant challenges with the inevitable slow and gradual decrease in the cost advantages of raw materials' prices, as well as ready to eat products. Enterprises, as they constitute the majority in manufacturing business, in the long run will need to determine the efficiency, and hence competitiveness of Polish food processing sector.
The aim of the paper is to review the domestic and foreign literature in terms of classification and systematization of the concept of technical efficiency in food processing sector in Poland. In the theoretical part of the study methods of descriptive, comparative, deductive and synthetic analysis are used. In the practical part of the study appropriately selected non-radial NR-DEA model adequate for technical efficiency measurement is presented. The results of the analysis is based on the results of authors' own calculations, as well specific findings from business practice both from inland and abroad.

Keywords: efficiency, effectivity, technical efficiency, food processing, Poland.

1. Introduction

Food economy is one of the most important sectors of economy in every country because of its significance for production and employment, but above all, in connection with the supply of food to the society. Food economy is a collection of many different economic systems that influence organizational structure, methods of operation and financial performance of the production chain actors. Entities in the food processing sector operate in an environment with high exposure to the risk of business activity (Zielińska-Chmielewska, 2014).

Food processing enterprises strive for continuous and steady supply of raw materials to carry out production which would correspond to the changing needs and preferences of the consumer. The food market is an arena where various operators, which are different in character, intensity, strength and direction of impact, come into play. One of the main obstacles for food processing enterprises is the difficulty of obtaining stable and predictable income which would guarantee the continuation of production and remaining a going concern. What is characteristic and typical for agriculture and agro-food industry, is the fact that prices of raw materials fluctuate all-year round but retail prices of finished products remain relatively rigid. All of the above strongly affect the efficiency of the agribusiness operators in the market. In Polish food processing enterprises occurs concentration and integration between entities in the production chains, which has accelerated after Poland's accession to the European Union. Existing foreign publications in this field based on decades-old experiments confirm the need for conducting multi-step quantitative and qualitative research, in which systematic identification and evaluation of the financial efficiency of food processing enterprises can be made. On the basis of theoretical analysis and empirical results of previous studies, a hypothesis has been formulated. The technical efficiency of food processing enterprises results from optimizing the use of analyzed factors affecting the level of productivity achieved by the examined enterprises.

The paper consists of 5 sections: *Introduction*, which defines the problem, subject matter and puts forward the hypothesis of the research, *Discussion on the classification of efficiency measurement in the economic studies* defines effectivity including modern context with crucial points referring to current knowledge based on the relevant results of recent research, presentation of *Methodology, empirical data and analysis* subjected to re-testing existing documentation background, *Results and discussion on the assessment of technical efficiency* focused on explaining its economic significance and insights, and *Conclusions* supplemented by verification of the hypothesis, assessment of research results, attention to problems which occurred and limitations of the research, guidelines for future research and assessment of institutional and systemic implications and solutions for current state of research. In the last section of the article *References* are listed.

Developing research on the efficiency of food processing enterprises is extremely needed and constitutes a useful tool for policy makers on the food market in terms of obtaining information about the validity of its operations, the need to make the necessary modifications, eliminating the potential risk of operation, and thus minimizing risk of bankruptcy and liquidation (Zielińska-Chmielewska, A., Alihodzić, A., Smutka, L., 2019, p. 1087).

2. Discussion on the classification of efficiency measurement in the economic studies

The article reviews domestic and foreign literature in order to present and make the necessary comparison of the technical efficiency concept, methods of measuring it, taking into account various advantages and disadvantages of its use. The study applies method of analysis and reasoning, and in particular the methods of descriptive, comparative, deductive and synthetic analysis. The results of the analyses are based on the results of authors own research and studies.

It has to be mentioned that economic effectivity is the primary valuation standard in economics (Wilkin, 1997, p. 25). But it should be distinguished from the English-language word effectiveness, often translated into Polish as *skuteczność*, meaning that a desired effect was eventually achieved by more or less effective method. Effective operation does not mean that it was at the same time efficient. For the process to be efficient and effective, goals must be properly planned, and the results have higher value than costs.

Table 1: Comparison of economic processes according to the criterion of efficiency and effectiveness

The economic process	Efficient	Inefficient
Effective	planned economic objectives of the process are achieved, and the final results are of higher value than expenditures set for the planned economic objectives	Planned economic objectives of the process are achieved, but the final results are of lower value than incurred expenditures
Ineffective	Planned goals of the economic process are achieved, but the value of final results is higher than incurred expenditures	planned economic objectives of the process are not attained, and the value of final results is lower than incurred expenditures

Source: own study based on: Szymańska, 2011, Effectiveness of farms specialized in the production of pork in Poland; Nowosielski, 2008, The efficiency and effectiveness of business processes

In the systemic approach efficiency is the ability of a company to shape its environment, so that it becomes favorable, and the ability to overcome any obstacles. From this perspective, businesses are open systems that try to optimize the processes of acquisition and use of scarce resources from the environment. In this way, they are able to gain or maintain a competitive position. Therefore, effectivity is the ability to overcome the uncertainty surrounding the company. The essence of effectivity are incurred expenditures, transformation processes and final results. Evaluation of effectiveness involves identifying the ability to obtain resources, and then determining the extent of their use.

The economic efficiency of analyzed entities can be measured by three different methods: indicative, parametric and non-parametric. In the article the economic efficiency is being measured by using data envelopment analysis (DEA). This method has been very often used to assess the efficiency of public sector, non-profit institutions and institutions (Emrouznejad, Yang, 2018). Charnes, Cooper and Rhodes (1978) were the first ones who described DEA approach and applied the CCR model to measure productive efficiency frontier based on the concept of Pareto optimum on the basis of Farrell assumptions (1957). This approach considers how much the total efficiency in the financial sector can be improved and ranks the efficiency scores of decision-making units (DMUs). The DMUs are usually described by several inputs that are spent on the production of several outputs. DEA efficiency measurement derives from analyzing empirical observations obtained from DMUs to define productive units, which are characterized by common multiple outputs and common designated inputs (Charnes et al., 1978). DEA is most useful in cases where accounting and financial ratios are of little value, multiple outputs are produced through the transformation of multiple inputs, and the input-output transformation relationships are unknown (Charnes et al., 1978).

To me mentioned that studies using DEA are mostly centered on deriving a summary measure of the efficiency of each entity, estimating targets of performance for each entity and identifying the model of best efficiency entity. Additional uses for DEA, f. ex. in banking include the measurement of efficiency in light of resource and output prices, the estimation of operating budgets that are conducive to efficiency, the assessment of financial risk at bank-branch level, and the measurement of the impact of managerial change initiatives on productivity (Thanassoulis, 2001).

Besides the DEA approach, the most common approach for measuring the economic efficiency is the ratio analysis. This approach can measure the overall financial situation but the weakness

of ratio analysis is the lack of agreement on the relative importance of various types of input and output (Jurčević, Mihelja Žaja, 2013).

3. Methodology, empirical data and analysis

Based on literature, it can be concluded that the concept of the efficiency consists of efficiency and flexibility. Efficiency (also known as economic effectiveness) includes economic, technical and non-economic efficiency. The economic effectiveness can be viewed from two independent perspectives: financial and productivity-related. Non-economic efficiency includes organizational, operational and dynamic efficiency. Economic efficiency is the ratio of the obtained result to inputs. According to the principle of rational economy, it means that certain results should be achieved at the lowest expenditures (costs) possible, or the best possible result should be obtained with a given quantity of inputs (costs). The higher the efficiency is, the greater result per unit of effort is. Efficiency is applied both in assessing the effects which are quantitative nature (as a ratio of the effects to expenditures) and qualitative (as the ability to achieve the desired effect). Methods commonly used for assessing overall efficiency are based on three approaches: relying on ratio, parameters and non-parameters. Since this article presents analysis and evaluation of overall efficiency (financial) by means of ratios, technical efficiency by means of non-parametric DEA method and organizational efficiency measured by quantitative and qualitative methods, these methods should be explained better.

Table 2: Presentation of used methods, techniques and research tools

Research subject	Measure-ment method	Subject, territorial-temporal scope	Method of data acquisition	Tools and research techniques	Current application of methods
evaluation of technical efficiency	quantitative	database includes entities operating in the meat sector in Poland	financial database for the purpose of research	indicator analysis methods, positioning methods, dynamic analysis	A few analyses in Poland and in the world

Source: authors

In-depth, long-term analyses carried out since 2012, supplemented by data from the Central Statistical Office of Poland enabled to create database of 695 meat enterprises located in Poland in the period 2010-2017. Raw data for analysis came from Polish Monitors "B", a specialist financial database of EMIS Intelligence, supplemented with financial statements in the form of balance sheets, profit and loss accounts, cash flows of the surveyed entities from the National Court Registers. The analyzed 53 poultry meat enterprises[1] represent 15% of the operating poultry meat enterprises. The basic criterion for selecting a sample for the study was:

a) subject of conducted activity according to PKD 2007 - classes 10.12 and 10.13, b) location within the country, (c) keeping the financial statements for the years 2012 to 2017, d) no bankruptcy or liquidation, e) raw material processing volume (t/week), number of employees (full-time), volume of revenue (PLN/year). Clarified data from the poultry meat enterprises were used in the research in order to implement non-radial efficiency DEA model.

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[1] Meat processing enterprises were classified according to the volume of processing raw material, such as: tons/day, see also: Dz. U., 2004, nr 173, poz. 1807.

3.1. Technical efficiency – concept, the advantages and disadvantages of parametric and non-parametric approach

Therefore scientific research and economic practice increasingly often use measures constructed on the basis of microeconomic definition of effectiveness (Domagała, 2007; Mielnik, Szambelańczyk, 2006). Technical effectiveness is measured in a parametric and non-parametric manner.

Table 3 presents advantages and disadvantages of parametric methods.

Table 3: Comparison of advantages and disadvantages of parametric methods

Advantages	Disadvantages
Not necessarily large in size, the population of research objects makes it possible to conduct an analysis on the basis of which it is possible to formulate substantive conclusions	The need to make assumptions about the form of the production function and define the relationship between inputs and outputs
	Difficulty of observing "all" possible combinations of inputs and outputs for the analyzed entity
	Difficulty in specifying the mathematical form of the production function and consequently its mathematically identified interpretation
	The necessity of averaging data when estimating its parameters, as a result of which the empirical values deviate from the values of estimated model
	The regression curve determined on the basis of model values is not a limit of effectiveness since it does not cover all observations

Source: authors

In the parametric approach, efficiency is calculated on the basis of the production function, which determines the relation between inputs and outputs with regard to technologically efficient production processes. The parameters of this function are determined using classic econometric estimation tools. The parameters of the production function are estimated or calibrated based on statistical observations. The values of the production function are determined on the basis of a normative efficiency model, and deviations from them result from random errors or inefficiency of the examined entity (Panek, 2002). In parametric methods, the measure of effectiveness can be the rest of the model or the quotient of the empirical value of the result and its value obtained from the model.

In part, the disadvantages of parametric methods can be compensated for by using the so-called shifted model, in which the regression curve is shifted in such a way that the model "limits from above" all empirical observations. This is possible by translating the free expression value and leaving the slope of the regression curve unchanged. In this group of parametric methods, SFA (Stochastic Frontier Approach), TFA (Thick Frontier Approach) and DFA (Distribution Free Approach) are distinguished (Baran, Pietrzak, 2007; Becker, 2007; Becker, Becker, 2009; Borkowski, Ćwiąkała-Małys, 2004; Kosmaczewska, 2011; Nowak, 2009).

In a non-parametric approach, efficiency is calculated as the ratio of actual productivity to the highest possible productivity (Helta, 2009). Functional parameters are determined on the basis of models that do not require a functional relationship between inputs and outputs. Using mathematical programming methods and empirical observations the shape of the efficiency limit is determined. The value of the efficiency measure is determined on the basis of the

position of the examined entity relative to the efficiency limit. The basic methods of non-parametric approach include DEA (Data Envelopment Analysis) and FDH (Charnes, Cooper, Rhodes, 1978).

Table 4 presents advantages and disadvantages of non-parametric methods.

Table 4: Comparison of advantages and disadvantages of non-parametric methods

Advantages	Disadvantages
The design of the model is not fixed *a priori*, but adapted to the data, making it more flexible compared to parametric models	The need for knowledge of linear programming procedures
Lack of knowledge and skills required by previous methods to divide input (inputs) and output (outputs) variables properly[2]	Achieving a similar level of materiality as in the parametric models requires more objects in the sample
No need to formulate the functional relationship between inputs and outputs beforehand	The results are less, or not at all, independent of population distribution and outlier observations
Multi-criteria evaluation, i.e. the impact of multiple input variables on multiple output variables	
Non-parametric methods are insensitive to outliers, which is why they are so-called robust methods.	
The interpretation of the results does not require the adjustment of parameters to any distribution, thus eliminating methodological and interpretation difficulties	
No need to take into account a random factor in determining the effectiveness of the entity and the impact of potential measurement errors	

Source: authors

In the world, as evidenced by a rich bibliography, non-parametric methods, especially the DEA method, are well-known and frequently used for measuring efficiency. In Poland the DEA method was used to analyze the effectiveness of financial and public institutions. In the current conditions of strong competition, the increase in effectiveness of slaughter, production, meat and meat products is a challenge for all entities of the meat sector. Hence, the use of the DEA method and its variants is justified for the measurement and evaluation of the effectiveness of this sphere of economic life.

Figure 1 shows an illustration of the Russel efficiency measure.

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[2] In non-parametric models, it is possible to check which of the variables are input and which are output, such that if the input variable does not lead to an increase in efficiency, it is the output variable.

Figure 1: Illustration of the Russel efficiency measure
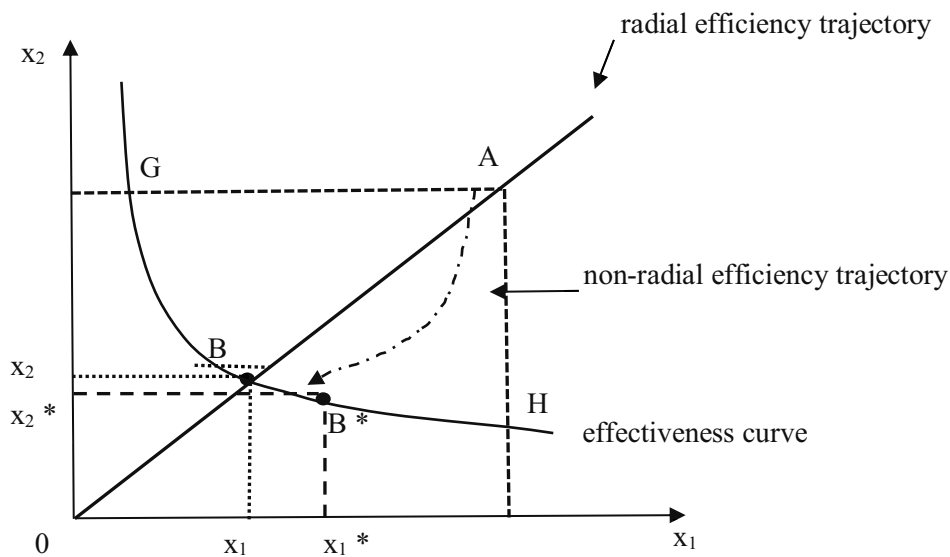
Source: authors on: (Guzik, 2009, 2009 a).

In the article NR-DEA non-radial efficiency model based on Russel's degree of efficiency is used. CCR and SE-CCR models refer to the concept of efficiency formulated by Farrell - Debreu, in which the determination of technology efficiency in the sense of Farrell - Debreu consists in determining the coefficient allowing for maximum and proportional reduction of inputs or increase of results along the technological radius to such a level where it is still possible to obtain certain results by the o-th object. Unfortunately, the disadvantage of the measure of efficiency in the sense of Farrell-Debreu is its radial, i.e. linear nature, from which the assumption of a proportional reduction of all inputs is derived. From an economic point of view, this is not a beneficial feature. In the research subject matter of this work, it is justified to assume that not all expenditures contribute to a certain result or set of results to the same extent. Therefore, the solution to this problem is to apply the non-radial efficiency model proposed by Thanassoulis and Dyson (1992) in the form of a non-radial efficiency model (DEA), which is a modification of the CCR model. In the NR-DEA non-radial model, sub-factors for individual inputs have been introduced, with sub-factors being radial. The non-radial efficiency in the sense of Russell for the o-th object is described by the coefficient. The NR-CCR model takes the following form:

$$1.\ \overline{\theta_o}a = \frac{1}{N} \sum_{n=1}^{N} \theta_{no} \to \min$$

With restrictions:

$$2.\ \sum_{j=1}^{J} y_{rj}\lambda_{oj} \geq y_{ro} \quad \text{for } r = 1, \dots, R$$
$$3.\ \sum_{j=1}^{J} x_{nj}\lambda_{oj} \leq \theta_{no}x_{no} \quad \text{for } n = 1, \dots, N$$
$$4.\ \theta_{no} \leq 1 \quad \text{for } n = 1, \dots, N$$
$$5.\ \lambda_{oj}, \theta_{on} \geq 0 \quad \text{for } j = 1, \dots, J, n = 1, \dots, N$$

Where:
θ_{no}^* - optimal multiplier of the n-th effort in the o-th facility.

This coefficient should be interpreted as an indicator of the efficiency of the o-th facility due to the nth effort. It indicates how much as a percentage, the n-th effort should be reduced. It indicates how much as a percentage, the nth effort should be reduced in this facility to make this facility effective due to the effort under consideration.

4. Results and discussion on technical efficiency of poultry meat enterprises measured by input-oriented NR-DEA model

Table 5 presents the ranking of the highest technical efficiency of ten poultry meat enterprises in Poland in the years 2012-2017. Due to the NR-DEA model (VRS) it was possible to indicate that not all inputs contribute to a certain result or set of results to the same extent. The ranking of the highest technical efficiency levels shows that in poultry meat enterprises, the highest technical efficiency equal to 100% (17.27) was observed in Drobkal sp. j., the second company was PPH Doldrob Karol and Jarosław Dolman and Andrzej Więckiewicz sp. j. 73.31% (12.66) and ZD Linodrób 40.65% (7.02).

Table 5: Ranking of the highest technical efficiency of poultry meat enterprises by using the NR-DEA model (VRS)

Lp.	Company name	Arithmetic average	Scope (min.-max.)	Standard deviation	Variation coefficient	Average DEA values in 2012-2015 [%]
			Poultry meat enterprises			
1.	Drobkal sp. j.	17.27	16.03-18.96	1.37	0.08	100.00
2.	PPH Doldrob K. i J. Dolman i A. Więckiewicz sp. j.	12.66	11.95-13.21	0.61	0.05	73.31
3.	ZD Linodrób	7.02	6.48-7.69	0.50	0.07	40.65
4.	Indyk Śląsk	6.23	6.09-6.40	0.13	0.02	36.07
5.	System Drob	5.89	5.47-6.60	0.49	0.08	34.11
6.	Marek Sala	5.82	5.69-5.91	0.09	0.02	33.70
7.	Doldrob Grażyna	5.81	0-13.11	6.82	1.17	33.64
8.	Iko Kompania Drobiarska	5.40	5.11-5.76	0.32	0.06	31.27
9.	ZD w Stasinie sp. z o.o.	5.32	4.79-5.75	0.43	0.08	30.80
10.	Ekpols	5.27	5.05-5.45	0.17	0.03	30.52

Source: authors

Figure 2: Average DEA values in poultry meat enterprises in Poland in the years 2012-2017
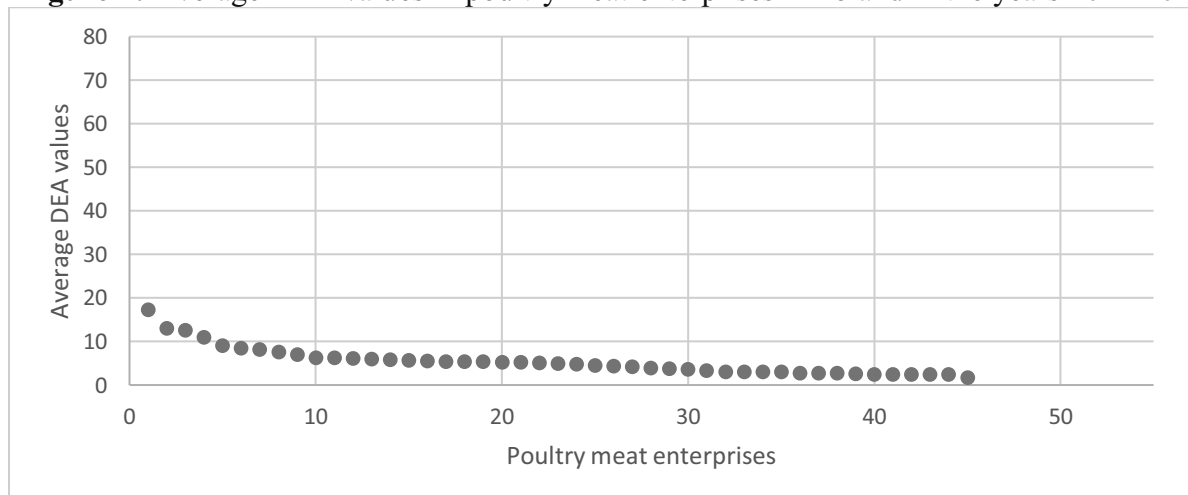
Source: authors

Table 6 presents the average technical efficiency ratios of VRS calculated for the poultry meat enterprises in Poland in the years 2012-2017.

Table 6: Relation of the relative values of the technical performance factors of meat establishments using the NR-DEA model (VRS)

Years	Relation of the relative values of the technical performance factors	
	All meat enterprises	Poultry meat enterprises
2012	0.916	0.889
2013	0.617	0.468
2014	0.698	0.887
2015	0.830	0.783
2016	0.781	0.863
2017	0.615	0.784

Source: authors

In the group of all meat enterprises, the VRS technical efficiency coefficient was at a varied level. The total value of the technical efficiency coefficient VRS decreased from 0.916 (2012) to 0.615 (2017). In 2012, the average total technical efficiency ratio was 0.916, which means that the entire population (n=695) could reduce the level of the surveyed outlays by 8.4%, while poultry meat enterprises could reduce this level by 11.1%. On the basis of the analysis, it can be concluded that in 2012, the highest level of technical effectiveness of VRS was achieved by all meat enterprises in comparison with the remaining years of the analysis.

In the group of poultry meat enterprises, the VRS technical efficiency coefficient was less heterogeneous than in the group of all meat enterprises. The total value of the technical efficiency coefficient VRS decreased from 0.889 (2012) to 0.468 (2013). In 2012, the average total technical efficiency ratio was 0.889, which means that the poultry meat enterprises (n=53) could reduce the level of the surveyed outlays by 11.1%. On the basis of the analysis, it can be concluded that in 2012 and 2014, the highest level of technical effectiveness of VRS by poultry meat enterprises in comparison with the remaining years of the analysis was achieved.

Table 7 presents the ranking of technical efficiency of meat enterprises by groups, number of enterprises, and share in population (%) together with the average DEA value. In 2012, there were 20 poultry enterprises whose average technical efficiency was higher than the average DEA value (4.61) for this group, which meant that 37.74% of all poultry meat enterprises were technically efficient.

Table 7: The ranking of technical efficiency of poultry meat enterprises by using NR-DEA model (VRS)

Years	Number of efficient poultry meat enterprises	Share of efficient poultry meat enterprises in population (%)	Arithmetic mean of DEA value of efficient poultry meat enterprises
2012	20	37.74	4.61
2013	19	35.85	4.66
2014	21	39.62	4.72
2015	10	18.87	3.87
2016	11	20.75	4.56
2017	10	18.87	3.84

Source: authors

The results presented in table 7 shows that the population of poultry meat enterprises had a very large variation in the average DEA values. Moreover, the average size of the VRS technical performance factors showed a downward trend. In 2014 the highest technical efficiency measured in the number of efficient enterprises (21) was observed, which meant almost 40% of the analyzed population. In 2015 and 2017, the lowest technical efficiency measured in the number of efficient enterprises (10) was observed, which meant only 18.87 of the analyzed population. The reason for that were due to the unfavorable external conditions, related to the

conflict in Ukraine and the embargo imposed by Russia on Polish agro-food products, influenced changes in the volume of meat trade in foreign trade. The imposition of the embargo has contributed to changes in the directions of trade. Although in 2014 the results of the exchange of agro-food products with Central and Eastern Europe and EU Member States were successful, the period of adaptation to the changing economic situation influenced changes in the average DEA values this year (Drożdż, 2014, p. 3; Ambroziak, 2015, p. 7).

The calculated technical efficiency coefficients made it possible to measure the size of production gaps for enterprises in the years 2012-2017 . At this stage of research, model (optimal) input levels were identified with actual inputs of factors in order to increase technical efficiency to the unity of the surveyed enterprises. Benchmarking carried out - comparison of a given factor's resource with its most effective use. Benchmarking has become a tool to improve the use of the factor on the basis of the most effective (model) use of the resource in all surveyed groups of enterprises. If the production gap size was 0.00 in the model value approach, it means that the real values reached the model (optimal) size and do not need to be adjusted.

Table 8: Production gaps of meat enterprises using the NR-DEA (VRS) model (PLN million; %)

Production gaps of meat enterprises

Values

All meat enterprises

Years	Total assets Actual PLN Mln	Total assets Model	Total assets Actual as % of model values %	Equity Actual PLN Mln	Equity Model	Equity Actual as % of model values %	Receivables Actual PLN Mln	Receivables Model	Receivables Actual as % of model values %	Inventories Actual PLN Mln	Inventories Model	Inventories Actual as % of model values %
2012	23.365	27.55	72.45	10.387	19.33	80.67	6.573	43.12	56.88	2.875	52.24	47.76
2013	22.982	19.31	80.69	10.229	10.65	89.35	6.482	48.76	51.24	2.580	39.10	60.90
2014	23.974	21.60	78.40	11.156	12.11	87.89	6.613	51.68	48.32	2.724	48.36	51.64
2015	31.932	26.14	73.86	14.260	22.12	77.88	8.702	25.53	74.47	3.835	37.38	62.62
2016	30.876	25.20	74.80	12.440	13.56	86.44	7.532	22.58	77.42	3.214	34.12	65.80
2017	31.762	26.02	73.98	13.119	19.01	80.99	8.802	25.84	74.60	2.678	38.30	61.70

Poultry meat enterprises

Years	Total assets Actual PLN Mln	Total assets Model	Total assets Actual as % of model values %	Equity Actual PLN Mln	Equity Model	Equity Actual as % of model values %	Receivables Actual PLN Mln	Receivables Model	Receivables Actual as % of model values %	Inventories Actual PLN Mln	Inventories Model	Inventories Actual as % of model values %
2012	83.562	32.64	67.36	35.894	33.62	66.38	24.409	7.30	92.70	11.933	16.54	83.46
2013	82.479	33.52	66.48	34.533	36.13	63.87	24.366	7.46	92.4	10.239	0.00	100.00
2014	82.983	33.11	66.89	36.037	33.35	66.65	23.662	10.13	89.87	10.740	4.88	95.12
2015	124.058	0.00	100.00	54.070	0.00	100.00	32.879	25.00	75.00	16.774	63.82	36.18
2016	104.018	4.12	95.88	51.371	5.15	94.85	30.266	22.90	77.10	14.760	60.08	39.92
2017	120.080	2.00	98.00	52.644	3.00	97.00	28.347	16.72	83.28	16.911	64.02	35.98

Source: authors

Table 8 presents the analyses of production gaps (mismatch of analyzed inputs) calculated for all meat companies and poultry meat enterprises in the years 2012-2017. Both groups of enterprises were very different. In a case of all meat enterprises production gaps in total assets increased from Mln PLN 22.982 (2013) to Mln PLN 31.932 (2015), equity increased from Mln PLN 10.229 (2013) to Mln PLN 14.260 (2015), receivables increased from Mln PLN 6.482 (2013) to Mln PLN 8.802 (2017). There was a slight increase in inventories from Mln PLN 2.875 (2013) to Mln PLN 3.835 (2015), too. In case of poultry meat enterprises production gaps in total assets increased from Mln PLN 82.479 (2013) to Mln PLN 124.058 (2015), equity increased from Mln PLN 34.533 (2013) to Mln PLN 54.070 (2015), receivables increased from Mln PLN 23.662 (2014) to Mln PLN 32.879 (2015). There was a strong increase in inventories from Mln PLN 10.239 (2013) to Mln PLN 16.911 (2017). The highest level of differentiation of production gaps was observed in poultry meat enterprises in all input categories compared to other groups of meat companies. Poultry meat production in Poland in the years 2014-2017 increased by 30%. The state of surplus supply led to a decrease in prices of main products of meat enterprises and products of animal origin, including prices of poultry livestock on the domestic and EU market (Ambroziak, 2015, p. 7). Difficulties in estimating the level of the use of inputs have been aggravated by the appearance of avian influenza.

To sum up the analyses of the technical efficiency of the poultry meat companies, it can be concluded that:
- the implementation of the adopted research objective enabled the formulation of conclusions and recommendations for economic practice,
- one group of conclusions presents the analytical potential of the non-parametric method and its usefulness in research on the estimation of technical efficiency of agribusiness entities,
- another group of conclusions concerns the importance of the assessment of the technical efficiency of poultry meat enterprises in comparison to all meat enterprises,
- the technical efficiency of poultry meat enterprises has decreased during the analyzed period,
- the highest level of differentiation of production gaps was observed in poultry meat enterprises in all input categories compared to other groups of companies.

5. Conclusions

The analysis of domestic and foreign literature in the field of measuring the technical efficiency of agro-food processing enterprises lead to the conclusion that the concept of efficiency is diverse and multi-dimensional and can be classified in various ways. Methods commonly used for assessing overall efficiency are based on three approaches: relying on ratio, parameters and non-parameters.

The difficulties concerning the efficiency measurements have arisen from the characteristics and properties of the different approaches and methods of its assessment. According to the conducted research, it can be said that the research hypothesis has been positively verified. Additionally, poultry meat enterprises on the agro-food sector create specific forms of cooperation and integration which influence their business results. It has been proven that technical efficiency depends on the level of optimizing the use of the analyzed factors affecting the level of productivity achieved by the examined enterprises.

Therefore, the obtained results will be used in further analyzes of factors affecting the level of maximization use of inputs using existing and modified methods of the efficiency measurement.

An attempt to develop a new concept for measuring and assessing the efficiency of food processing entities may have an influence on actions, entities affected by those actions, and may lead to the redefinition of the state's role in the stabilization of domestic food processing sector. The results of the article can be considered as a new contribution to the development of science, as it intends to identify, clarify and assess the financial efficiency of chosen group of processing enterprises in agro-food sector. In addition, the results can be helpful in creating a strategy for companies, development institutions and creating economic policy programs in agriculture, helping adjust the activities of related entities in the agro-food market, as well as determine the role of the state in terms of stabilization of the domestic meat market and to gain the significant competitive advantages.

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EXPLORING THE CONCEPT OF CIRCULAR ECONOMY AND ECO-INNOVATIONS IN THE CONTEXT OF THE REGIONAL DEVELOPMENT

ABSTRACT

The international community has reacted to unsustainable use of natural resources and raising environmental issues by establishing the policies for sustainable development of the society. One of the most important is Circular economy policy that involves integrative processes for all of three dimensions: economic, environmental and social. Interdisciplinary framework of Circular economy requires different approaches and systemic solutions, instruments and mechanisms driven by paradigm of sustainable consumption and production. The key element of Circular economy are Eco-innovations that bring along not only environmental innovative technology solutions but also involves holistic combinations of service innovations and novel organizational set-ups. Therefore, scientific and expert society foster experience sharing on Circular economy and eco-innovative solutions including the best practices to the global, national, and regional scale. Considering Eco-innovations as the key element in enabling regional transition to Circular economy, this paper explores their interactions and provides conceptual modes for establishing the eco-economic space of the region. In addition, this work exploring the monitoring framework and indicators in order to provide data for benchmarking the progress among different regions.

Key words: *circular economy, eco-innovations, regional development, eco-economic space of the region, monitoring framework, indicators.*

1. Introduction

In competitive globalized markets, consumers and producers alike may have strong interests in economic stability and growth, but also in avoiding humanity's burden on the environment. Socio-economic and environmental issues, such as waste or emissions of greenhouse gases (GHG) are strongly connected and therefore the sustainability transitions are essential to establish various forms of society's resilience. The systemic issues are the growing threats to ecosystem resilience and the complex challenges for society on every scale – global, national, and regional (EEA, 2019, 8). To transform economy and society in more sustainable one, the new modes of design, manufacturing and logistics of goods and services are available through Circular economy (CE) approach and Eco-innovations (EIs). This new paradigm ensures many opportunities for the regions to involve a new technological and non-technological environmentally friendly solution.

According to authors Shabunina et al (2017, 178), eco-economic space of the region is a system formed by interacting economic and environmental aspects aimed for better living conditions for the inhabitants. In this context, variety of environmental friendly CE and EIs methodological provisions with positive impacts on economy and society are established. For e.g. guidelines, incentives and subsidies for CE and EIs implementation, and variety of market mechanism associated with the innovative production and consumption processes are available (EC, 2015, 6, Shabunina et al, 2017, 179). The balance between eco-innovative supply chain and economy provides a high level of environmental safety, energy efficiency and sustainable consumption of resources. Therefore, regions become spatially, economically and socially conscious spaces where exploitation of environment and natural resources is engaged in a self-sustaining way.

The objectives of this paper is to discuss interlinkages between CE and EIs on the regional level. Secondly, this paper explores conceptual implementation of CE and EIs at eco-economic space of the region and provide examples of the best practices. Thirdly, this work provides comprehensive insight into potential benefits and obstacles that regions may encounter during the introduction of CE and EIs. At the end, according to presented evaluation framework, this paper introduces modes for monitoring the progress in implementation of CE and EIs at the regional level accompanied with relevant indicators aimed to ensure comparison among regions.

2. Literature review

In 2015, European Commission launched an ambitious policy for CE (EC, 2015, 2). In contrast to the "take-make-waste" linear economy model, CE ensures moving to the "closed-loop" paradigm. Concept of CE brings economic benefit, reduces environmental impact by relocating waste as a resource from the end of the supply chain to the beginning, and eliminates toxic substances from processes and by using resources more efficiently (Figure 1).

Figure 1: A simplified illustration of Circular economy
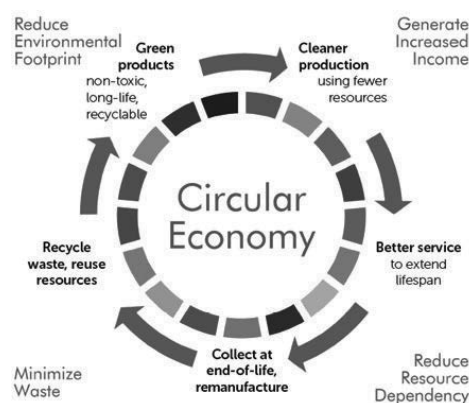
Source: UNIDO, 2017, 1

Extending product lifespan is achieved through improved eco-design and servicing, so the products are more durable and can be reused, remanufactured, recycled back into a raw material or as a last resort, disposed of (UNIDO, 2017, 1). Therefore, interdisciplinary framework of CE requires different approaches and solutions, including EIs to assure transformative achievements towards techno-economic and social sustainable transition. It is important to

stress that information and communication technologies (ICTs) play a key role in enabling implementation of CE and EIs to existing business models (WEF, 2014, 25).

Circular Economy Action Plan (EC, 2015, 18) defines EIs as a tool for advancement of production and consumption, including repair, remanufacturing and waste management. Specifically, EIs are any innovations that reduce the use of natural resources and decrease the release of harmful substances across the whole lifecycle of product or service (EC, 2011a, 2, EC, 2019a, 20). Within the CE approach, EIs has a key role in many areas such as energy, water and waste, including material use and products (Figure 2).

Figure 2: Environmental objectives of EIs
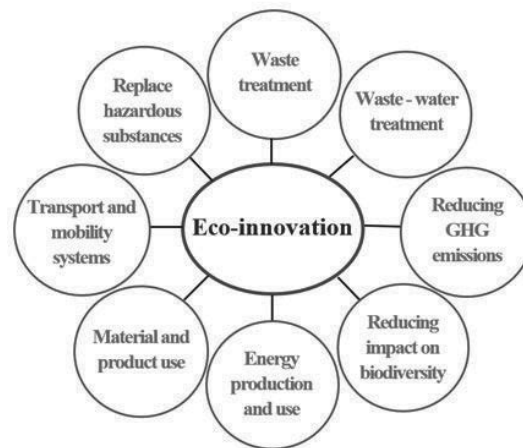
Source: authors

EIs could be technological and non-technological. Eco-innovative equipment of the processes is in the focus of technological EIs (Cecere et al, 2014, 1039). Areas where non-technological EIs could be manifested are social and organizational (Rennings, 2000, 322). Enhancing eco-effectiveness in consumption and production, EIs bring a competitive advantage across many businesses sectors.

3. Theoretical framework for introduction of CE and EIs at eco-economic space of the regions

As previously mentioned, CE accompanied with EIs supports new growth opportunities for the positive transformation. Literature data reveals estimation that by 2030 a shift towards a CE could reduce net resource spending in the EU by €600 billion annually, bringing total benefits estimated at €1.8 trillion per year (EMF and GD, 2015, 11). In 2014 European Commission (EC, 2014, 5) estimated that a shift to a CE would deliver a 0.8% GDP increase by 2030. Besides these rough economy predictions, it will be appropriate to consider introduction of CE and EIs concerning resources and market conditions, regulation instruments and managerial methods (Shabunina et al, 2017, 178).

In relation to broader national frameworks, regions could be more flexible to explore modes of closed material cycles and competitive EIs (EMF, 2013, 19). The smaller spatial units are less dependent from globalized financial and economic trends and, in general, have less environmental impact than large-scale global solutions (Korhonen et al, 2018, 544). Additionally, balance between economy and ecosystems can contribute to the self-

sustainability of regions, especially in times of crisis. Furthermore, economically advanced regions are strongly obligated to reduce environmental impacts. However, the less developed regions should also meet all environmental obligations to establish sustainable lifestyles, technologies and infrastructures. Therefore, there are variety of demands on operating companies. Industry modernization and growing need for energy and resources, sorting and recycling technologies including waste-water treatment infrastructure force companies to become environmentally active (Van Berkel et al, 2009, 1544). Besides those internal factors, companies should take into account external influence like environmental regulation and policies. Companies are mainly motivated by environmental policy or specific issues such as waste management (Mattila et al, 2010, 4309), but recently they became a fertile ground for enhanced wider environmental performance through EIs and Environmental Management Systems (EMSs) such as ISO 14001, Eco-management Audit Scheme (EMAS). Besides, emerging collaborative patterns of the join business and environmental conceptual solutions are available in variety of spatially extent (Figure 3).

Figure 3: Concepts related to the spatial dimension of EIs

Source: Massard et al, 2014, 12

Good examples of spatial collaborative approach that enhance performance of the eco-economic space of the regions are Eco-industrial park and Eco-innovation park (EI parks). Eco-industrial park is the community of manufacturing and service businesses that has a commitment to enhanced economic and environmental performance through collaboration in managing environmental and resource issues including energy, water, and materials (Massard et al, 2014, 12). By working together, the community seeks a synergy where collective benefit is greater than the sum of the individual benefits, so each company realizes it only by optimization of its individual performance (Erkman, 2001, 531). Tools for company-level optimization are, for e.g. the Green supply chain management concept (GSC, 2017, 4) or EMSs. The main goal of these practices is to "minimize use of resources and waste including hazardous chemicals, and to reduce emissions, energy consumption and impact on biodiversity" (Chin et al, 2015, 696). Collaboration between Eco-industrial parks develop spontaneously through independent business partnerships, also known as Eco-industrial networks (Ruth and Davidsdottir, 2009, 3).

The term Eco-innovation parks (EI park) is used to define both Eco-industrial parks and Eco-innovative areas combining residential and industrial communities, such as Eco-cities and Eco-towns (Massard et al, 2014, 13). Besides optimization of environmental performance (e.g. processes that incorporate environmental technologies and services), EI parks are open for improvement through cooperation with broad stakeholders such as public institutions and those dedicated to research and development (R&D) (Massard et al, 2014, 20). Therefore, EI park is industrial regional symbioses where CE and EIs are applicable. Considering global competitiveness, this kind of industrial community is incubator of green and clean technologies, processes, products and services (Massard et al, 2014, 45). They provide tangible benefits in terms of investments, turnover, and market including a job creation.

More precisely, the synergy of CE and EIs implemented in EI park offered: (i) new modes of application and distribution of existing products, (ii) an integration of new production processes, products or services, and (iii) innovative models for marketing to foster company competitiveness and to alter change of existing patterns of consumer's behaviour (EC, 2011b, 6). Considered this practice in the context of society, it is obvious that systemic change of eco-economy space of the region is necessary. This approach implies conducting previously mentioned analysis for restructuring of market, instruments and management methods and drafting the innovative development regional strategy.

Companies reinvent processes and infrastructures with the new CE business models, primary to increase market competitiveness (Koellner et al, 2007, 41). In order to provide basis for this comprehensive analysis of all potential benefits, the examples of CE good practices by type of EIs are introduced in Table 1. Modelling of the best management practices could increase integration of numerous different perspectives and domains between existing and new business models. This approach brings a systemic visioning of economic development based on decoupling of economic growth from the consumption of finite resources and environmental issues. In addition, it is crucial to take into account regional specificities and potential negative effects of CE and EIs implementation.

Table 1: Selected examples of CE practices by type of EIs

Type of EIs	Examples of CE solutions
Product design EIs	On the stage of eco-design of products and services, the emphasis is on eco-efficient use of materials and processes Overall impact on the environment and material input is minimized over the whole product's life cycle Allowing for recovery options like repairing, maintenance, remanufacturing, recycling and cascading use of components and materials, including organic waste
Process EIs	Material use, emissions and hazardous substances are reduced, risks are lowered and costs are saved in production processes Remanufacturing such as refurbishment by replacing or repairing components that are defective, including the update of products Disassembly and recovery of components, materials and substances Upcycling, functional recycling, down-cycling Zero waste production, zero emissions, cleaner production
Organizational EIs	Methods and management systems reorganization pushing for closing the loops and increasing resource efficiency New business models e.g. industrial symbiosis, new collection and recovery schemes for valuable resources From products to functional services (product-service systems)
Marketing EIs	Product and service design, placement, promotion, pricing Promotion of the reuse for the same purpose (e.g. bottles, appliances), promotion of the reuse for different purposes (e.g. tires as boat fenders, for play grounds) Eco-labelling, green branding, Environmental Management Systems (EMSs)
Social EIs	Behavioral and lifestyle changes, user-led innovation Sharing (e.g. domestic appliances, books, textiles), collaborative consumption (e.g. flats, garden tools) sufficiency (e.g. plastic bag bans) Smart consumption, responsible shopping, use rather than own schemes
System EIs	Entirely new systems are created with completely new functions reducing the overall environmental impact Leading to a substantial dematerialization of the industrial society New urban governance, smart cities, permaculture

Source: EC, 2016, 13

4. Potential benefits and obstacles of CE and EIs on the regional scale

According to European Environment Agency (EEA, 2016a, 15) the advantage of CE and EIs established on the regional level are in physical proximity of a spatially smaller environment, as well as in facilitated business among cooperating companies and strong encouragement from local stakeholders. In a case of a link between the region and eco-cities that strive for sustainability transition the benefits are occurred in local sourcing of required materials and zero-waste strategies, in a high share of renewable energy or low carbon solutions in public transport system, as well as in support for local and regional agriculture (Vence and Pereira 2019, 1). However, Eco-innovation Observatory proposed the various examples where the economic and social systems on every spatial scale boost the transition to CE and EIs (EC, 2018a, 10). Nevertheless, many other institutions and authors explore potential benefits and opportunities of CE-based regional development, and some of them are introduced in Table 2.

Table 2: Potential benefits and opportunities of CE-based regional development

Area of CE regional development	CE-related potential benefits and opportunities for regions	Authors identifying the benefits
Economic	• CE business models and reformed production processes • new CE products and services • resource efficiency, energy efficiency increase and energy savings in businesses against scarcity of resources • reduced reliance on raw materials import • green-based economic growth • R&D stimulated by CE solutions • CE-oriented fiscal policy	EMF, 2013, 22; EMF and GD, 2015, 5; EEA, 2016b, 41; Prieto-Sandoval, 2018, 605; EC, 2018a, 10; Demirel and Danisman, 2019, 1611
Environmental	• CE solutions in waste management- reusing materials and goods, refurbishment, remanufacturing, recycling, reduce landfilling • increase in material consumption effectiveness • increase of renewable energy production and consumption • increase in water reuse • decrease in air, water and land pollution, and GHG emissions • biodiversity support	EMF, 2013, 22; Chin et al 2015, 698; Lazarevic and Valve, 2017, 60; De Jesus et al 2018, 3012; Sgroi et al 2018, 22; Pomponi, F., Moncaster, 2017, 712
Social	• increase social awareness about environment • circular thinking society development • opportunities for local jobs and social integration • CE social innovation stimulation • CE consumption patterns (e.g. sharing economy) • CE social entrepreneurship development • new model of collaboration among stakeholders	EMF 2013, 22, 10; EMF and GD, 2015, 5; EEA 2016b, 41; Kalmykova et al, 2018, 193; EC, 2018a, 10; Moreau et al, 2017, 497
Spatial	• CE-based approach in spatial management • development of CE zones (industrial and urban symbiosis of regional systems) • CE transport and mobility infrastructure solutions (sharing services, development of public transport) • CE public spaces (CE regional policy providing more opportunities to create public spaces that	McDowall et al 2017, 651; EEA, 2016b, 41; Leising et al, 2018, 979; Ghisellinia et al, 2018, 623; Zawieska, J. and Pieriegud, 2018, 39
Cultural	• CE-based forms of art • CE-based urban design	Homrich et al, 2018, 529; De los Rios and Charnley, 2017, 113; Fusco Girard and Gravagnuolo, 2017, 39

Source: authors

In the last two decades, industrial sectors underpin economic development through environmental performance and resource efficiency practice (Massard et al, 2014, 12). Cities and regions have a key role to play as promoters, facilitators and enablers of CE (OECD, 2019, 4). Their provision of infrastructure and involvement of local suppliers ensures added value in their position to the regional and also global supply chain. In addition, the application of CE and EIs is significant in production of chemicals and fertilizers, agro-food innovation, in the field of sustainable transport development and the public procurement (EC, 2019a, 20). It should be emphasized that Small and Medium-Sized Enterprises (SMEs) are at the core of the

sustainability transitions that allows the recovery of valuable materials and water, or enhance energy efficiency or land take (Demirel and Danisman, 2019, 1615).

On the other hand, disruptive changes and radical innovations accompanied with possible negative implication like financial, structural, operational, attitudinal and technological barriers od CE and EIs has been occurred recently (Ritzéna and Sandström, 2017, 9). Due to the survey conducting by OECD (2019, 6), the main obstacles to CE transition are related to cultural barriers, incoherent regulatory framework, financial resources, critical scale and holistic vision, including lack of adequate information, human resources and political will. According to Shabunina et al (2017, 179), economic obstacles could be market prices (which do not fully reflect manufacturing cost of product or service), lack of tools to assess profitability of investments in CE and EIs and complexity of transition from traditional technologies to eco-technologies. Technological obstacles are represented through mismatch of technology with the specified economic requirements, lack of alternative materials that can replace hazardous components and complexity of eco-innovation technologies (Vignali et al, 2020, 220). Furthermore, management obstacles refer to lack of experience in the management of such changes, and most usually, personnel obstacles are lack of highly qualified personnel in eco-innovation management, monitoring, and implementation as well as reluctance of companies to invest in staff training (Johnson, 2010, 91). Consumer behaviour obstacles refer to stability of perception of CE and EIs and the risk of customers' loss due to the price increase caused by the cost of eco-technologies in the final price of the product (Newton and Cantarello, 2014, 58). According to the Murray et al (2017, 369), some sustainable activities have negative impact on the environment. For instance, production of green fuels and some energy technologies are based on long-lasting materials or materials that are not recyclable at all. Therefore, their application may have negative environmental consequences. Also, CE and EIs implementation includes potential challenges such as financial constrains related to considerable costs for R&D, asset investments, subsidy payments for new business models, and public investment (e.g. in waste management and ICT infrastructure). The cost of this transition considered as one of the major barriers, particular for the SMEs. Therefore, the appropriate finance tools for all sizes and types of companies and organizations should be radical enhanced. Most of previously mentioned obstacles could be avoided by careful planning of eco-economic space of the region.

5. Monitoring framework for evaluation of eco-economic space of the region

Companies see opportunity in following the CE model and implementation of EIs in their business and investment choices. Therefore, evaluation and tracking the progress are necessary to support the maintenance of the outlined orientation and decision-making. Many authors (Lou et al, 2015, 514; Heshmati, 2015, 16; Smol et al, 2017, 669; Avdiushchenko, 2018, 4398) emphasize the importance of uniform metrics for measuring transition from linear to CE, including implementation of EIs. According to European Environment Agency (EEA, 2014, 7), environmental indicators are essential tools for assessing environmental trends, tracking progress against objectives and targets, evaluating the effectiveness of policies and communicating complex phenomena. Evaluation indicators can be determined with regard to technical, environmental, economic, social, or other objectives taking into account the specific conditions (Kulczycka and Lelek, 2014, 16; Liu and Bai, 2014, 147). Thus, European Commission defined the framework for CE monitoring (EC, 2018a, 7) and emphasis the need to move away from being overly focused on waste management. The areas such as eco-design, collaborative economy and social dimension are included, as well as data of environmental emissions.

To indicate applicable monitoring framework for eco-economy space of the region, variety sets of indicators are considered in this work: Eco-Innovation Scoreboard (EC, 2018b, 2), Regional

Innovation Scoreboard indicators (EC, 2019a, 20), Eurostat's targets and indicators (Eurostat, 2019), Material flow indicators (MFA, 2019), and Eco-efficiency indicators (UN, 2009). At the end, the list of circularity indicators proposed by Ellen MacArthur Foundation (EMF and GD, 2015, 5) and circular transition indicators provided by World Business Council for Sustainable Development (WBCSD, 2020, 10) are also consulted, so complementary framework with measurable set of indicators for five focus areas is proposed in Table 3.

Table 3: Monitoring framework for evaluation of CE and EIs performance at regional level

Monitoring area	Indicators	Sources
Technological	Total material requirement per capita Share of water circularity Number of CE business models Number of technological EIs Number of ICT solutions in CE business models	MFN, 2018; EC, 2018c, 4; WBCSD 2019, 10; OECD, 2019, 6; Eurostat, 2019
Economic	Share of CE inflow and outflow (total) Share of SME's with CE business models Share of private investments in CE Resource productivity Number of patents related to waste management and recycling per total number of patents	OECD, 2008, 76; COM, 2018b, 2; WBCSD, 2019, 10; Eurostat, 2019; EC, 2019b, 7
Environmental	Eco-efficiency Recycling rate of municipal waste Share of renewable energy in total energy consumption Emissions of greenhouse gases (GHG) Emissions of acidifying substances Amount of food waste generated Water intensity Waste-water intensity	UN, 2009; EC, 2018c, 5; WBCSD, 2019, 10; Eurostat, 2019
Spatial	Share of CE-based urban structures Share of CE-based constructed buildings Share of CE-based green infrastructure Land use intensity	EC, 2018c, 6; OECD, 2019, 9; WBCSD, 2019, 10
Social	No. of employees in CE sectors per 1,000 inhabitants Share of Green Public Procurement Number of EIs services per total number of innovations Share of corporations and public organization with EMSs Number of sharing economy solutions Share of CE-based forms of art	EC, 2018c, 4; OECD, 2019, 8; Eurostat, 2019

Source: authors

6. Conclusion and recommendations

Ecological innovative investments, new jobs, and consequently sustainable patterns of behaviour in both production and consumption areas are driven by economy, natural resources and environmental concerns. As mentioned previously, implementation of CE and EIs aims to maintain the value of products, materials and resources for as long as possible by returning them into the product cycle. Especially in the challenging systems such as food, energy and mobility, CE and EIs play a key role in improving environmental performance and increasing resilience of society.

Taking into account presented research, circular and more innovative economy seems to be as more manageable at the regional scale. In comparison to spatially larger environment, regions are less dependent from globalized financial and economic trends. Additionally, introduction

of environmental friendly solutions at eco-economic space of the region is a way that region could reduce environmental pollution and use natural resources more efficiently. Generally, by applying CE principle and EIs at the regional level, the pressures on the natural capital and environment should not be alleviated, but some of disruptive changes could occur. The financial obstacles of CE and EIs implementation are considered as one of the major barriers, particular for SMEs, so appropriate finance tools for all sizes and types of corporations should be radical enhanced. Besides, economic, technological, management, personnel and consumer's obstacles should be considered within a regional characteristics and specifics. In order to highlight importance of comprehensive analysis needed for restructuring of eco-economy space of the region, examples of a good practice and appropriate instruments and methods are presented in this paper. As a final product of such comprehensive analysis could be the innovative development strategy for implementation of CE and EIs aimed for sustainable management of the region.

In this paper, another important consideration was to evaluate the CE and EIs benefits and to reflect the sustainability challenges of eco-economy space of the region. In order to evaluate progress in transparent and uniform manner, we propose monitoring framework with set of identified indicators to assess circularity of the product, project and company, and to evaluate EIs performance at the regional level.

Good practice, potential obstacles and proposed monitoring framework could be valuable tools for regional decision-makers to achieve CE goals and EIs outcomes and increase competitiveness. In the last decade, it is obvious that the advantage in the market depends on following the global economy and social sustainable trends, reduced environmental pressures, and security of supply of materials. In addition, the introduction of CE and EIs across many economic sectors creates new jobs and strengthening social security at the regional level, especially in the time of crisis.

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2. ENTREPRENEURSHIP

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INSIGHTS INTO VOLUNTARY DISCLOSURE OF CASH FLOWS INFORMATION IN CROATIA

ABSTRACT

Since the mandatory application of International Accounting Standard 7 - Cash Flow Statements for the companies that prepare financial statements in conformity with IFRSs in 1994, the statement of cash flows became a very important source of accounting information. However, the presentation of this statement as an integral part of primary financial statements in Croatia is still primarily in the function of legal requirements satisfaction. The study focuses on the voluntary disclosure of cash flows information in the annual reports of Croatian companies whose shares are listed on the Zagreb Stock Exchange. The research is conducted on a sample of 114 companies with the aim to identify characteristics of companies that provide extensive disclosures on cash flows. Logistic regression method is used to explain the relationship between dependent binary variable of voluntary cash flow information disclosure and two groups of independent variables: accounting data (e.g. size, income, operating cash flow, payment of dividends, method used for operating cash flow reporting) and capital market information (e.g. segment of market listed, news announcement and stock market listing duration). Findings indicate that company size as well as stock market listing duration (in years) significantly and positively affect the voluntary disclosure of cash flow information in the annual report of Croatian companies. All remain variables tested are not found to be statistically significantly related to the cash flows information voluntary disclosure level. It can be concluded that despite the desire of the regulatory authorities that capital market investors receive all relevant information, voluntarily cash flow disclosure is not apparent in Croatia and companies voluntarily disclose additional information about cash flows very rarely.

Key words: *voluntary disclosure, cash flows, Croatia.*

1. Introduction

Since the mandatory application of International Accounting Standard 7 - Cash Flow Statements for the companies that prepare financial statements in conformity with IFRSs in 1994, the statement of cash flows became a very important source of accounting information.

However, the presentation of this statement as an integral part of primary financial statements in Croatia is still primarily in the function of legal requirements satisfaction.

According to the Law on Accounting (Official Gazette of the Republic of Croatia, No. 78, 2015) and Changes and Amendments to the Law on Accounting (Official Gazette of the Republic of Croatia, No. 134, 2015; No. 120, 2016; No. 116, 2018), all entrepreneurs (article 17) except of large entrepreneurs and public interest entities - PIEs are obliged to draw up and present annual financial statements by application of the Croatian Financial Reporting Standards (CFRSs). The same article prescribes that large entrepreneurs and PIEs are required to draw up and present their annual financial statements by application of the International Financial Reporting Standards, (IFRSs). Both CFRSs and IFRSs/IASs, as well as article 19 of Law on Accounting, define a complete set of financial statements that should include a balance sheet, a profit and loss account, a cash flows statement, a statement on changes in equity, and notes to the financial statements. However, as article 19.3 states that micro and small entrepreneurs shall prepare the balance sheet, the profit and loss account and the notes to the financial statements only, in this paper particularly listed companies which prepare and present their annual financial statements by application of the IFRSs/IASs are examined. The study focuses on the voluntary disclosure of cash flows information (e.g. notes to Statement, cash-flow ratios, liquidity analysis, cash flow trend analysis, etc.) in the annual reports of Croatian companies whose shares are listed on the Zagreb Stock Exchange.

The remainder of the paper is organized as follows: in Section 2 the most relevant previous papers on cash flows voluntary reporting are systematized and critically analysed. In section 3, the sample selection and variable description are presented. The features of extensive cash flow disclosure in Croatia have been quantified and the impact of various characteristics of companies on it has been empirically verified in section 4. The paper ends with concluding remarks.

2. Literature review

Financial reporting practices on the statement of cash flows have been the subject of many pieces of research. Some of them were investigating regulation aspects of the Statement, while others were interested in determinants of the companies that voluntarily disclose cash flow information.

There is research that provides insights into cash flow reporting practices in different countries, i.e. in a different institutional environment. For example, Gebhardt and Scholz (2014) conduct an analysis of the costs and benefits of requiring an additional presentation of the statement of cash flows using the direct method in German companies. They concluded that critics arguing that direct method is too costly, less reliable and impede the timely release of filings are not in compliance with practitioners' opinion, the same as the argument that the direct method would not provide useful information. Based on the 2013 and 2014 consolidated statements of cash flows of companies listed in Euronext Lisbon, Pexinho (2016) analysed the cash flow disclosures and found evidence of uniformity and consistency in the use of the direct method for reporting operational activities. Kundeliene and Stepanauskaite (2018) investigated the extent of voluntary information disclosure on the websites of Lithuanian companies. Their results showed a statistically significant correlation between the company's size and profitability with a wider scope and a larger volume of information.

Recently, comparative studies on a group of countries become very popular. For example, Berglof and Pajuste (2005) have examined the level of disclosures in 10 Central and Eastern European (CEE) countries (not including Croatia) and found widespread non-disclosure of even the most basic elements of corporate governance despite existing regulation. Furthermore, they found high discrepancies in the level of disclosure among firms, and especially among countries. Taran et al. (2017) have explored the relationship between foreign ownership and financial disclosure practices of listed companies of 16 countries from the CEE region. Unlike similar research, they did not control the results for the country effect but conduct an analysis for the region as a whole. This approach may bias the obtained results because of differences in the accounting regulatory framework and EU membership status, as well as differences in historical and cultural background, banking-financing orientation, the prevalence of statutory-control, etc. This claim is corroborated with evidence from Pivac, Vuko and Cular (2017) research who analysed and compare the level of annual report disclosure quality for listed companies in 5 European transition countries and found significant differences in disclosure quality of annual reports between the observed countries. As a possible reason, they state the overall business environment, the difference in EU membership status and socio-political characteristics.

Also, previous research on voluntary disclosure of cash flows information in Croatia should be mentioned. Aljinović Barać (2012) conduct a research on extensive disclosures practices of Croatian large companies whose shares are listed on the Zagreb Stock Exchange and found that companies which voluntarily disclose information about cash flows are young (i.e. their shares are listed on an organized securities market for a short time) and profitable with growing net income and growing cash flow from operating activities and usually use indirect method for operating cash flow report. Aljinović Barać, Granić and Vuko (2014) extended their research on medium and large companies, as well as on companies whose shares are not listed on the organized capital market. Thus, their findings differ with regard to Aljinović Barać (2012) results, and show that firm size, listing status and the industrial sector significantly and positively affect the level and extent of voluntary disclosure in the annual report of Croatian companies. On the other hand, Gulin and Hladika (2017) reduced their research on the benefits and advantages of information presented in the statement of cash flows to a subsample of 35 Croatian large companies whose shares are listed on the Zagreb Stock Exchange. Obtained results show that possibilities and perspectives of the company's development, undertaking the investment ventures, business combinations, and other integrations are increasing as a result of transparent reporting on cash flows and that investors and creditors have greater confidence in companies that generate positive cash flows.

3. Materials and methods

This research includes all Croatian companies listed on the Zagreb Stock Exchange (ZSE) regulated market in the year 2016, as listed companies have to comply financial reporting with the IASB standards and need to draw up and present cash flow statement and notes to financial statements. Banks, investment funds and other financial institutions are excluded from the sample because of asset structure differences. In addition, 3 companies with missing or incomplete financial statements data are also excluded, which is presented in Table 1.

Table 1: Sample selection

Number of shares listed on ZSE market	*147*
Number of multiple shares issuers	*(5)*
Banks, investment funds and other financial institutions (NCEA sector K – Financial and insurance activities)	*(21)*
Missing data	*(7)*
Final sample subset	***114***

Source: estimated according to data from authors' database (2018)

Data set necessary for analysis is extracted from hand-collected annual reports of listed companies on Croatian capital market, available on www.zse.hr.

3.1. Variables description and hypotheses development

Analysis of scientific literature done by Kundeliene and Stepanauskaite (2018) showed that there is no common theory that is adjusted to voluntary information disclosure analysis, but mostly used theoretical background for voluntary information disclosure literature include agency theory, signalling theory, and capital cost theory. Consistent with prior research, several factors that could affect the company's decision to publicly announce information about cash flows are considered. Those variables can be divided into two groups: accounting data (e.g. income, operating cash flow, payment of dividends, a method used for operating cash flow reporting, and size), and capital market information (e.g. segment of market listed, news announcements, and age).

Dependent variable cash flow disclosure (CFD) is an indicator variable set equal to one if the company announce any voluntary information about cash flow in notes to financial statements (e.g. financial ratios, additional data about items in statement of cash flows, management analysis of cash flow/liquidity, trend analysis, etc.) and zero otherwise. Detail description of dependent variables and expected association with voluntary cash flow information disclosure is presented in the table below.

Table 2: Variables description

Variable	Symbol	Metrics	Exp. sign
ACCOUNTING DATA			
Change in operating cash flow	ΔCFO	$\dfrac{\text{Operating cash flow}_{i,t} - \text{Operating cash flow}_{i,t-1}}{\text{Total assets}_{i,t-1}}$	+
Operating cash flow reporting method	MTHD	0 – direct 1 – indirect	+/-
Dividend payout	DIV	0 – no 1 – yes	+
Change in net income	ΔNI	$\dfrac{\text{Net income}_{i,t} - \text{Net income}_{i,t-1}}{\text{Total assets}_{i,t-1}}$	+/-
Size of the company	SIZE	$\text{Ln} \left(\dfrac{\text{Total assets}_{i,t} - \text{Total assets}_{i,t-1}}{2} \right)$	+
MARKET DATA			
Stock market segment	MKT	0 – regular market 1 – official market	+
News announcement	NEWS	0 – no 1 – yes	+
Issuer on the ZSE	AGE	Number of years listed	+/-

Source: Authors (2019)

A variable change in operating cash flow (ΔCFO) is used to measure cash flow performance. According to IAS 7.14, operating activities are the main revenue-producing activities of the company, so operating cash flows include cash received from customers and cash paid to suppliers and employees. The expected association of this variable to voluntary cash flow disclosure is positive, indicating that companies that generate more cash flow from operating activities will probably announce it voluntarily with the aim to differentiate themselves from less liquid ones and to attract business partners.

According to Gray et al. (2001:122), variations in the format of the financial statements (MTHD) influence financial reporting and information disclosure practices. Although IAS 7 [IAS 7.18] encourages the direct method of presentation, very few financial statement preparers adhere to the guidance so the indirect method continues to be the most favoured. On the other hand, interested parties have indicated that the cost of switching from indirect to direct method is not worth any incremental benefit over the indirect method that might exist. Because rule makers have consistently favoured mandating the direct method, it is likely that the Statement will undergo a transformation in the future (Jeppson et al, 2016). Furthermore, Gebhardt and Scholz (2014) findings on the practices of German and Australian companies show that concerns that direct method is too costly, less reliable and impedes the timely release of fillings are not well-founded. Moreover, they also find a direct method more useful for internal users. It is interesting to note that in Portugal most of the listed companies (more than 90%) chose the direct method to present the operating cash flow, but the reason is that the direct method is the only method authorized by the Portuguese regulation (NCRF 2) (Peixinho, 2016). However, as companies and regulators have been debating for years which method of operating cash flows presentation is better, expected sign of association with voluntary cash flow disclosure cannot be determined.

A variable dividend payout (DIV) is set equal to one if the company paid out dividend in the current year and zero otherwise. The expected association of this variable to voluntary cash flow disclosure is positive, indicating that companies that decide to pay out dividends will probably voluntarily announce plenty of cash flow information to point out their liquidity and to attract new investors.

A variable change in net income (ΔNI) is used to measure the company's profitability. The expected association of this variable with cash flow reporting practice cannot be uniquely determined. Namely, the companies may have an incentive to publicly announce cash flow information in order to declare free of blame for bad financial performance. Results of Wasley and Wu (2006) study suggest that management discloses cash flow information to mitigate the negative impact of bad news in earnings. Thus, the probability of cash flow voluntary disclosure decreases with better financial performance results measured by net income. On the other hand, according to Guay et al. (2016), more profitable companies are expected to have incentives to voluntarily disclose more information, if it is on their benefit. Moreover, Taran et al. (2017) point as they are profitable they may easily afford disclosure costs.

According to Taran et al. (2017), variable size (SIZE) captures the sensitiveness of companies to information costs and it is expected that larger firms will have a higher level of disclosure because they have activities that are more complex. Consequently, they have more stakeholder groups whose demands must be satisfied, and these companies are more noticeable. Due to this fact, they provide more information in order to improve reputation and meet the regulatory requirements (Kundeliene and Stepanauskaite 2018). Furthermore,

according to Juhmani (2014), larger companies are more noticeable by society, so in order to maintain their reputation, they are likely to disclose more information.

According to Meek and Gray (1989) listing at a different market (MKT) segment is likely to result in additional demand for voluntary disclosures. There are two main market parts in ZSE: regulated market and multilateral trading facility and the main difference between these markets is in the level of transparency, as multilateral trading facility has low requirements set on the issuer with regard to publicly available information. Thus, only companies traded at the regulated market are included in the sample. Regulated market is divided into three segments: Prime market**,** Official market, and Regular market. Prime Market is the most demanding market segment in relation to transparency. Regular Market commits the issuer to submit only a minimum of information stipulated by the Capital Market Act while the Exchange Rules stipulate additional requirements applicable to the Official Market. However, only two types of market segments are identified in the sample: Official (n=24) and Regular (n=90), so this variable covariate categorical in the binary logistic regression model. The expected association of this variable with cash flow reporting practice is positive, indicating that the probability of cash flow voluntary disclosure increases with the listing at the official market segment.

A variable news announcements (NEWS) is set equal to one if the company announces news at the capital market in the current year and zero otherwise. As in 85 cases (75%), no news is announced in the current year, this variable is set as a dummy in the model. The expected association of this variable to voluntary cash flow disclosure is positive, indicating that the probability of cash flow voluntary disclosure increases with news announcements.

A variable age (AGE) is measured as the number of years of listing share on ZSE. According to Wasley and Wu (2006) there is greater uncertainty about "young" companies' earnings and their product activity, so their management will disclose more cash flow information in order to signal economic viability. On the other hand, Juhmani (2014) claims that an "older" company, i.e. which operates longer and lists its shares on the stock market for a longer time, will need more communication to the outside community to maintain a good public image. As a result, the expected association of this variable with cash flow reporting practice cannot be uniquely determined.

4. Research results and discussion

4.1. Univariate statistics

Descriptive statistics highlight the differences in average, minimum and maximum values of numeric variables between disclosing and non-disclosing cash flow information groups.

Table 3: Between groups descriptive statistics

Variable	CFD	N	Mean	Minimum	Maximum	Std. Deviation	Std. Error Mean
CH_OCF	No	100	0.04087119	-0.679	4.775	0.496268386	0.049626839
	Yes	14	0.00323179	-0.131	0.122	0.059807596	0.015984253
CH_NI	No	100	0.00015495	-0.416	0.928	0.137752132	0.013775213
	Yes	14	0.02288358	-0.013	0.069	0.028737424	0.007680400
SIZE	No	100	19.80146972	16.342	22.876	1.150246260	0.115024626
	Yes	14	20.57117185	17.859	23.726	1.880397138	0.502557274
AGE	No	100	13.03	0	23	3.823	0.382
	Yes	14	15.14	9	22	4.074	1.089

Source: estimated according to data from authors' database (2019)

The average annual change in operating cash flow and net income are close to zero, indicating that all companies, regardless of the cash flow information disclosure practice, reported almost unchanged values of operating cash flows and net income from period to period. However, the spread between minimum and maximum values as well as high standard deviation in the group of non-disclosing companies shows large dispersion among companies. This is not the case in disclosing cash flow information group, both for operating cash flows and net income variables. On the other hand, the spread between minimum and maximum values and high standard deviation for variables size and age is evident in both disclosing and non-disclosing cash flow information groups. Furthermore, parametric t-test and non-parametric Mann-Whitney U – test are used to statistically test the difference in mean values between groups. The obtained result of the parametric test indicates that there is a statistically significant difference in the mean values of the variable age between the group of companies that voluntarily disclose cash flow information and those who do not (t-test -1.831; sig.= 0.085). Similarly, non-parametric Man-Whitney U test result shows that the average value and the rank of number of years that shares are listed on the capital market among companies classified according to the voluntary cash flow information reporting practice are not equal (sig.= 0.071) as well as the average value and the rank of variable annual changes of net income (sig.= 0.044).

4.2. Multivariate analysis

Binary logistic regression data analysis as multivariate analysis method is used to test hypothesis about probability that company will voluntarily disclose cash flow information. Based on theoretical background and relevant previous research, following model is developed:

$$CFD_i = \beta_0 + \beta_1*\Delta CFO_i + \beta_2*MTHD_i + \beta_3* DIV_i + \beta_4*\Delta NI_i + \beta_5* SIZE_i + \beta_6*MKT_i + \beta_7*NEWS_i + \beta_8*AGE_i + e_i$$

where:
CFD_i = dummy variable, equals 1 if company *i* voluntarily announces any cash flow information, 0 otherwise
ΔCFO_i = change in operating cash flow of company *i* in year *t* with regard to year *t-1*
$MTHD_i$ = operating cash flow reporting method for company *i*
DIV_i = dummy variable, equals 1 if company *i* payout dividend, 0 otherwise
ΔNI_i = change in net income of company *i* in year *t* with regard to year *t-1*
$SIZE_i$ = average size of company *i*
MKT_i = stock market listing segment for company *i*
$NEWS_i$ = dummy variable, equals 1 if company *i* announce any news, 0 otherwise
AGE_i = number of years that company *i* list its shares at stock market
e_i = error term of the model.

Results of conducted logistic regression analysis are shown in the table below:

Table 4: Binary logistic regression model

Variable	B	Wald	Sig.
ΔCFO	-0.590	0.209	0.648
MTHD	-0.040	0.001	0.974
DIV	0.192	0.066	0.797
ΔNI	5.080	1.906	0.167
MKT	-0.482	0.327	0.567

Variable	B	Wald	Sig.
NEWS	0.493	0.400	0.527
AGE	0.168	3.578	0.059
SIZE	0.765	4.888	0.027
Constant	-19.863	7.586	0.006

-2 Log likelihood = 72.70;
Cox & Snell R^2 = 0.102; Nagelkerke R^2 = 0.194
Source: estimated according to data from authors' data base (2019)

Table 2 presents the results for binary logistic regression analysis on 114 observations. Cox & Snell and Nagelkerke pseudo R Squares, as well as -2 Log likelihood and Hosmer and Lemeshow test of likelihood ratio, indicate a relatively good model fit and confirm overall model significance. Also, in order to detect potential multicollinearity problem among independents, Variance Inflation Factor (VIF) are calculated. As obtained VIF values range from 1.066 (variable AGE) to 2.202 (variable ΔNI), it can be concluded that there is no indication for multicollinearity to be present.

The results of Wald statistic tests show that the size of the company is found statistically significant at the 0.05 level, while age is found statistically significant at the 0.1 level. Both variables are positively correlated with the probability of voluntary cash flow disclosure, indicating that the possibility of cash flow voluntary disclosure increases in larger companies, as well as in companies whose shares are listed on an organized securities market for a long time. The results of variable size testing are consistent with previous research (Aljinović Barać, 2012; Juhmani, 2014; Taran et al., 2017; Kundeliene and Stepanauskaite, 2018) and indicate that larger, more noticeable companies with more complex activities and more stakeholder groups whose demands must be satisfied will have a higher level of cash flow information disclosures.

The results of variable age testing support the argument that companies which operate longer and list its shares on the stock market for a longer time will need more communication to the outside community (Juhmani, 2014), as it is positively correlated with the voluntary cash flow disclosure. However, it is interesting to note that this finding differs with regard to Aljinović Barać (2012) results on extensive disclosures practices of Croatian large companies whose shares are listed on the Zagreb Stock Exchange. As the average number of years of listing shares at the stock market is pretty high (13 years for companies in non-disclosing and 15 years for companies in disclosing cash flow information group), the possible explanation for this change in trend could be in a small number of new-entries companies. Thus, the existing issuers are "getting older" and they have to keep extensive cash flow disclosure information practice to maintain a good public image.

All remaining variables are not found statistically significantly correlated with the probability that the company will voluntarily disclose cash flow information. Contrary to the expectations, the findings revealed that other independent variables (i.e. changes in operating cash flows and net income, operating cash flow reporting method, payout dividend, stock market listing segment and news announcements) do not appear to be significant in explaining the probability that company will voluntarily disclose cash flow information.

5. Concluding remarks

The primary goal of this paper is to analyse the characteristics of companies that provide extensive cash flow disclosure. Obtained results indicate that that company size as well as stock market listing duration (in years) significantly and positively affect the voluntary disclosure of

cash flow information in the annual report of Croatian companies. All remain variables tested are not found to be statistically significantly related to the cash flows information voluntary disclosure level. It can be concluded that despite the desire of the regulatory authorities that capital market investors receive all relevant information, voluntarily cash flow disclosure is not apparent in Croatia and companies voluntarily disclose additional information about cash flows very rarely.

Summarizing theoretical and empirical results of the research, the following recommendations can be derived: (1) the international standard setters and national legislative authorities should (a) constantly draft and propose amendments and laws in order to achieve precise definitions and full harmonization of the statement of cash flows in order to avoid considerable misinterpretation, (b) rethink about consistent favouring of direct method mandating and consequently of changes in Statement of cash flows structure; (2) national legislative authorities should (a) aim to make mandatory the publication of cash flow statement for all entities (b) define and enforce full disclosure practice, especially for capital market participants; (3) future researches should aim to explore cash flow reporting practices in more detail, e.g. in different regulatory framework countries, with regard to different company's characteristics, with regard to different financial performance measures, etc.

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A scientific paper

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AN ENTREPRENEURIAL APPROACH TO SUSTAINABLE DEVELOPMENT OF SPECIFIC TYPES OF TOURISM IN THE EASTERN CROATIA

ABSTRACT

Tourism potential of Eastern Croatia is extremely high. It represents an area of diverse and preserved natural environment and numerous traditional values. Due to the fact that during the process of transformation and privatization Eastern Croatia lost most of its former successful enterprises, it is increasingly turning to the tourism industry. In recent years it has become recognized as a region offering a rich assortment of tourism products. The aim of this paper is to explore entrepreneurial opportunities for sustainable development of specific types of tourism in Eastern Croatia. The basic hypothesis of this paper is: "Eastern Croatia has significant potential for the development of specific forms of tourism through entrepreneurship programs.". A method that will be used in this paper is a method of survey among experts in the field of tourism and the results will be processed by the method of descriptive statistics. Although over the years the Croatian economic policy has predominantly favored the coastal destination, in recent years these trends have changed and destinations of continental Croatia are becoming increasingly important. This is favored by new sources of investments from EU funds that encourage various forms of entrepreneurship. The specificity of tourism of Eastern Croatia is the richness of various forms of supply that are going beyond the concept of development of sun and sea tourism. Previous studies have shown that Eastern Croatia receives a large part of tourist traffic during the tourist events (Vinkovačke jeseni, Jesen u Baranji, Đakovački vezovi, Aurea fest Požega, Osječke ljetne noći, etc.). In this paper, certain segments of tourism offer of Eastern Croatia will be presented through an overview of specific types of tourism in this region (rural tourism, manifestation tourism, gastronomic tourism, etc.) and their valorisation through various entrepreneurship programs.

Key words: specific types of tourism, Eastern Croatia, entrepreneurship in tourism.

1. Introduction

1.1. The subject of this paper and the research objective

This paper investigates special interest tourism within the concept of rural tourism development in Eastern Croatia. It is known that rural tourism is extremely developed in the EU countries, but in Croatia it is only in the beginning of its development. The development of rural tourism in EU countries is evidenced by research by numerous authors such as Alexander, McKenna, Baćac, Gartner, George, Lane, Lebe, Oppermann, Petrić and others. The subject of this paper is the sustainable development of special interest tourism in Eastern Croatia from the entrepreneurial perspective. Given that in this area, most of the once successful enterprises were lost during the transformation and privatization, it is increasingly turning to the tourism industry, which has produced significant results in recent years. The fact that the economic policy of the country for years favored destinations of the coastal Croatia and neglected the destinations of Eastern Croatia, led to a pronounced seasonality of Croatian tourism (the "sun and sea " concept). In recent years, this trend has slowly begun to change, especially since Croatia became a full member of the European Union. The aim of this paper is to explore entrepreneurial opportunities for sustainable tourism development in Eastern Croatia. Certain entrepreneurial opportunities are presented through the valorisation of special interest tourism. Special interest tourism represent certain types of tourism "which are based on the specific tourist interests for the contents and activities in a particular tourist destination " (Bartoluci, M., Škorić, S., 2009, pg. 1). They are based on tourists' motives for destinations that can optimally satisfy their special interests such as: health promotion motives, cultural introductions, sports and recreation motifs, gastronomic motives, religious motives, etc. Such motives form special interest tourism such as: health, cultural, sports, gastronomic, religious tourism, etc. (Bartoluci, 2013, p. 185). This paper evaluates those special interest tourism that are already developed today or are in the phase of development in Eastern Croatia.

1.2. Research methods

The main hypothesis of this research is: "Eastern Croatia has significant potential for the development of special interest tourism throughout entrepreneurship programs." In accordance with the hypothesis, a survey was conducted among experts and entrepreneurs in the field of tourism. Starting from the main hypothesis of this research according to which Eastern Croatia has significant potentials for the special interest tourism development throughout entrepreneurship programs, the paper will use the method of survey among experts in the field of tourism, and the results will be analyzed by the method of descriptive statistics. This will give a more concrete insight into the current state of Eastern Croatia's tourism offer and some recommendations for its improvement.

2. Analysis of the tourist offer in Eastern Croatia

Croatia belongs to the group of countries that attract visitors primarily with the richness of its natural space and cultural and historical heritage with quality, available and / or various modern tourist attractions (Bilen, „Turizam i okoliš", 2011, p. 136). The most important place among natural attractions has more, indented coast and numerous islands, but also the preservation of natural beaches, greenery and forest cover of a large part of the territory. Observing its total area (56,594 km², DZS), there is an extremely large number of attractive tourist protected natural areas, and according to biodiversity, Croatia belongs to the top of the European countries. The tourist valorization of the area in the still underdeveloped tourist areas of Eastern

Croatia along the Danube, Sava, Drava and other rivers, as well as lakes and other inland waters, represents an extremely great potential. Eastern Croatia covers the area of five Slavonian counties Osiječko-baranjska, Vukovarsko-srijemska, Virovitičko-podravska, Požeško-slavonska and Brodsko-posavska. This area is known for its plains, oak forests, picturesque vineyards and old cellars and numerous baroque palaces and churches. Each of these counties has its own comparative advantages that contribute to positive tourism results. Previous research has shown that the majority of tourists arrive during tourist events such as Vinkovačke jeseni, Đakovački vezovi, Aurea fest Požega, Jeseni u Baranji, Osječke ljetne noći and many others, when numerous tourists and visitors have the opportunity to get acquainted with the original folklore heritage, picturesque folk costumes, soothing tambourine sounds and unique culinary specialties.

Although Croatia has about 92% of rural space, rural tourism is one of the least developed forms of special interest tourism, which participates in the total income from tourism with only 1%, and in this area the conditions for the development of this form of tourism are particularly pronounced. The main reason for this situation is the neglection of the development of rural tourism due to many years of investment in the development of sun and sea tourism in the coastal area of Croatia. Bartoluci et al. (2018) point out that tourism in rural areas is one of the most promising complementary economic activities in Croatia and that it should continuously and systematically strive for its sustainable development.

Given that much of Eastern Croatia's territory is made up of rural areas, conditions for the development of rural tourism are particularly pronounced in this part of Croatia. Rural tourism is every tourist activity in the rural area, except here rural tourism includes cyclotourism, adrenaline, mountain, health, eco-tourism and many other specific forms of tourism (Rural tourism - general information, 2020). Family run farms that offer accommodation and catering services are especially popular in Eastern Croatia. Family run farm is an organizational form of economic entity of a natural person - farmer who independently and permanently carries out the activity of agriculture and related supplementary activities, based on the use of own and / or rented production resources and on the work, knowledge and skills of family members (Family Law agriculture (2018)). There are currently 162,966 family farms operating in Croatia, of which 37,233 in Eastern Croatia, almost 23% of them.

Today, there are about 500 tourist rural family farms in Croatia, of which about 80% are excursion farms, which means that they have tasting rooms and offer a visit to the property, while 20% of them have accommodation facilities (Ministry of Tourism, 2019). The number of tourist rural family farms is growing, as is the number of other service providers related to activities in rural areas. Thus, the offer of rural tourism is developing (Galijan et al., 2017). The largest number of providers of rural tourism is located in the County Dubrovačko-neretvanska, while in second place is the County Osiječko-baranjska, which is also the most visited county in Eastern Croatia.

According to the Central Bureau of Statistics, in 2018 Croatia was visited by slightly more than 18.5 million tourists who spent almost 90 million nights. Almost 89% of all arrivals and overnight stays are made by foreign tourists on the coast, while continental Croatia realizes just over 13% of tourist arrivals. Eastern Croatia accounted for just over 1% of tourist arrivals and overnight stays, but unlike the rest of Croatia, the largest number are domestic tourists.

Until recently, it has not been paid enough attention to Eastern Croatia, but new trends in the world tourism market are showing the change in behavior of tourists trying to experience as many different experiences as possible during their journey. Also Croatia's accession to the EU, has proved that Eastern Croatia is a hidden pearl with a large development opportunities, and tourism is emerging as a driving force for regional economic development.

3. Development opportunities of special interest tourism

Firstly, Croatia is known as summer holidays destination with the highest concentration of tourists on the coast. Special interest tourism are develped in order to alleviate the problem of seasonality and reduce the concentration of tourists. The introduction of the concept of special interest tourism does not imply the simultaneous emergence of some new type of tourism, but the implementation of a new concept of development of a tourist destination that is oriented towards demand and its specific needs, based on sustainability and systematic principle of market research. Special interest tourism ensure slow, long-term, locally controlled and regulated development. They can generate more revenue for all market entities, employ more local labor force and significantly stimulate family entrepreneurship (Kesar O. Specifični oblici turizma kao nositelji održivog razvoja destinacije, Turizam i sport - razvojni aspekti, 2007.). The richness of the natural and cultural-historical heritage makes a great strength of the resource-attraction of Eastern Croatia. There are numerous possibilities for the development of special interest tourism in Eastern Croatia such as congress, religious, hunting and fishing, one-gastronomic, nautical, manifestation tourism, etc. Some of these are discussed below

The development of tourism in Eastern Croatia is based on preserved natural resources, offering quality and indigenous food, viticulture, extremely valuable cultural and historical resources, manifestations and ethnographic interest.

Congress tourism is a special interest tourism in which the main traveling motif is not the rest, but the participation of individuals in meetings that may have different character. Visitors in congress tourism are not leisure travelers because they travel because of a specific need that is most commonly associated with their workplace. Although congress tourism is a business trip that is often required and conditioned by a job, task, or project, all travel receptive countries are very happy to classify these travelers as tourists, adding revenue from congress tourism to total tourism revenue. In accordance with the characteristics of participants attending various gatherings, congress tourism is considered as one of the most lucrative types of special interest tourism. According to a 2015 report by the International Congress and Convention Association (ICCA), business and convention tourism, including meeting tourism (MICE), make up almost a quarter of total international tourism in arrivals and foreign exchange inflows. The big advantage of congress tourism is certainly the higher consumption of congress tourists compared to traditional tourists, and in addition to the higher consumption and the extension of the season, congresses greatly contribute to strengthening the image of the country. Meetings can have scientific, professional, economic and other content (Kongresni turizam - opće informacije, 2017).

In this part of Croatia, this type of tourism is most often carried out in Osijek and other major cities (Đakovo, Vinkovci, Vukovar, Slavonski Brod, etc.). Most of these events take place at colleges, hotels, etc. Congress tourism has an excellent prospect, firstly thanks to hotels that have large halls equipped with modern equipment and can fully satisfy the increasingly demanding business clientele, as well as the richer accompanying tourist offer.

Gastronomy is the skill of knowing and preparing meals, choosing drinks and serving guests. Food in tourism has two roles, the first is the consumption of food to meet the physiological needs of the destination, and the second is for individual tourists to choose a specific destination for tasting local specialties (Gastronomski turizam - opće informacije, 2017.). This type of tourism is especially developed in Eastern Croatia, with family run farms throughout Eastern Croatia playing an important role. According to the Agricultural Law, family run farm is an independent economic and social unit made up of adult members of a common household, based on the ownership and / or use of production resources in the conduct of agricultural activities (Agricultural Law, OG 30/15). Family run farms make a big contribution by ensuring the use of natural resources, preserving biodiversity, demonstrating resilience and adaptability

in crises, and contributing to the preservation of tradition, identity and cultural heritage (Tušek, K., (2014.) "Uloga i značaj obiteljskih poljoprivrednih gospodarstava u Republici Hrvatskoj"). This area offers a rich assortment of indigenous Baranja and Slavonia specialties such as game stew, river fish specialties, dried meat products, etc. The marketing of indigenous products must be one of the significant goals of tourism development in rural areas. Indigenous products are protected by geographical indications for the sake of identity creation and recognition and a higher price category. In addition to promoting and selling indigenous products, they are a direct help to manufacturers in strengthening the market. Indigenous products are significant to the community and play a role in preserving culture and heritage.

Manifestation tourism is the name for all types special interest tourism motivated by the holding of various manifestations, cultural, scientific, business, sports, entertainment and similar in character and content. Recent studies have shown that most tourist visit Eastern Croatia during tourist events, which proudly preserve and nurture Croatian traditional culture and heritage. In addition to a rich traditional and cultural program, they also offer a rich gastronomic program. Some manifestations will be listed below.

Vinkovačke jeseni is a twelve-day manifestation that takes place in September in city of Vinkovci, and from the very beginning they have been discovering popularized and promoted tourist values of this city and its wider surroundings. During the twelve days, visitors can see the old folk customs and folklore events, enjoy the gastronomic specialties of the area and much more. Vinkovačke jeseni usually start on Wednesdays and last until next Sunday. On Sunday (the 12th day of the event), visitors gather in the main town square to see an event by cultural and artistic societies from all over Croatia (mostly from Eastern Croatia). Apart from a large number of visitors, the event is also very well attended by the media. It is estimated that over the past five decades, Vinkovačke jeseni have been watched directly by around 5 million viewers.

Aurea fest Požega is an event that takes place during the last weekend in August in city of Požega. A large "tamburica" concert by various performers takes place in the city center, and besides numerous visitors, this event attracts many displaced people from Požega from all over the world. It is a superb blend of traditional and urban, offering a unique musical, entertaining and gastronomic story for half a century.

Apart from the aforementioned, the Nature Park Kopački rit is one of Europe's largest preserved natural wetlands. The park is home to numerous plant and animal species, and deep in the dense oak and maple forest is the Tikveš Hunting Castle, once the famous imperial residence of the Habsburg family. There are numerous possibilities for further development of rural tourism in this area, and accommodation in houses of traditional construction and development of agritourism and eco agriculture, the inclusion of cultural, historical and architectural heritage in tourism ethnographic workshops of old crafts and the like, would certainly enrich the tourist offer of the entire area.

4. Results of the survey

For the purpose of writing this paper, a primary survey was conducted on a sample of 45 respondents, experts in the field of tourism and entrepreneurship. This research seeks to explore the level of development of rural tourism and other forms of special interest tourism and the further possibility of their development.The aforementioned research was conducted by the method of a questionnaire, and the results obtained are presented in this chapter.

The questionnaire itself consists of 9 groups of questions through which the respondents evaluated the tourism offer of Eastern Croatia.

A.1. Most respondents rated the level of rural tourism development as 3 (51%) or 2 (42%). According to the respondents, the level of development of rural tourism in relation to

competing countries is low or very low (over 60%). (Processed by authors according to the results of the survey, March 2020)

A.2. The level of development of individual types and special interest tourism in Eastern Croatia was evaluated by the majority of respondents with a grade of 3 (urban, rural, congress, religious, gastronomic, etc.). (Ibidem)

A.3. According to the answers of the respondents, the majority of respondents believe that special interest tourism have a fairly good or big development chance in Eastern Croatia, and rated most specific forms of tourism as 5 or 4 (rural, gastronomic, hunting and fishing, memorial, congress, etc.). (Ibidem)

A.4. Most respondents (53.3%) rated the integrated tourism product as having a good degree of economic sustainability, while 24.4% said the integrated tourism product had very good economic sustainability. However, 6.7% consider the integrated tourism product to have a high degree of economic sustainability. This supports the hypothesis of this paper that Eastern Croatia has significant potential for the development of special interest tourism through entrepreneurship programs, which means that the concept of developing specific forms of tourism in Eastern Croatia could be economically viable. (Ibidem) Similar results were obtained by the authors of an earlier study (Bartoluci, M., Hendija. Z., Petračić, M., 2015, p. 212) in which 77% of surveyed tourism experts answered that it is necessary to create and develop integrated tourist products in rural tourism and not offer them as individual market attractions.

A.5. Most respondents (almost 85%) rated Eastern Croatia's destinations as attractive. (Ibid)

A.6. Of the many motives for visiting a tourist destination, the respondents rated most of them with a score of 5, which proves that tourists to Eastern Croatia are attracted to indigenous gastronomy, manifestations, sports and recreation, behavior and customs of the local population, natural beauty, etc. This also supports the hypothesis of this paper. (Ibidem)

A.7. This group of questions refers to the reasons for starting entrepreneurial activities in rural tourism. Respondents rate the most important reasons for starting entrepreneurial activities in rural tourism with high marks. Among the most important are: increase in household income (75%), placement and sale of own products (67%), employment of family members (72%), expansion of activities (59%). This confirms the interests of entrepreneurs in starting entrepreneurial activities such as family farms, rural households, etc. (Ibidem)

A.8. Most of the respondents estimated that there are quality accommodation capacities in rural tourism in Eastern Croatia, but that they still do not have enough in relation to the real needs and potentials for tourism activities in this area. This applies to tourist family farms, small family hotels, campsites, etc. (Ibidem)

A.9. Respondents also assessed the real tourism demand in rural tourism in Eastern Croatia. This applies to domestic and foreign demand, to tourists who have spent nights and visitors. Respondents rated the domestic demand of excursionists with the highest ratings (good or very good, 73%). The demand for domestic tourists receiving overnight stays (71%) was slightly lower, which is understandable because a large part of these visitors stay with relatives or friends and do not spend overnights. Also, foreign visitors (whether staying overnight or not) are generally rated as good 3, which means that foreign demand is average and of lower intensity than domestic demand. Based on the assessment of potential and real tourist demand, it is possible to conclude that there is a favorable tourist demand for one-day visitors (excursionists), while assessing the slightly lower interest of overnight tourists. This also supports the hypothesis that there is a real and potential demand for entrepreneurial activities in tourism in Eastern Croatia. (Ibidem)

5. Conclusion

The subject of this paper was to explore the possibilities of sustainable development of special interest tourism in Eastern Croatia from the entrepreneurship point of view, while the aim of this paper was to explore the entrepreneurial possibilities of sustainable tourism development in the area of Eastern Croatia. Since the economic policy of the country for years has favored tourism in coastal destinations, this area has been neglected, but in recent years this has changed so that Eastern Croatia attracts more and more tourists every year.

Given that much of Eastern Croatia's territory is made up of rural areas, conditions for the development of rural tourism are particularly pronounced in this part of Croatia. However, in addition to rural areas, congress, gastronomic and manifestation tourism i is especially developing in this area.

The main hypothesis of this research is: "Eastern Croatia has significant potential for the development of special interest tourism throughout entrepreneurship programs." In accordance with the hypothesis, a survey was conducted among experts and entrepreneurs in the field of tourism. Respondents evaluated the current tourism offer of Eastern Croatia throughout a questionnaire and pointed out the development needs and opportunities. Most conclude that Eastern Croatia has great development opportunities in many types of tourism and that the integrated tourism product in Eastern Croatia's destinations has a very good economic sustainability. Similar results are shown by some other research in rural tourism that advocates the creation of an integrated tourism product of the entire region, because such a development concept has a perspective on the future development of rural tourism (Lebe and Milfelner, 2006, p. 1144). This confirms the entrepreneurs' interests in starting entrepreneurial activities such as family run farms, rural households, etc. The respondents rated the most important reasons for starting entrepreneurial activities in rural tourism. Respondents assessed that Eastern Croatia has quality accommodation capacities that are still insufficient to meet all existing and potential tourist demand. It was also estimated that there was favorable domestic and foreign tourist demand for Eastern Croatia destinations. Most respondents rated the integrated tourism product has a good degree of economic sustainability, while 24.4% considered the integrated tourism product to have very good economic sustainability.

This supports the hypothesis of this paper that Eastern Croatia has significant potential for the development of special interest tourism throughout entrepreneurship programs, which means that the concept of developing special interest tourism in Eastern Croatia could be economically viable.

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A scientific paper

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GLOBALIZATION AND DEVELOPMENT OF THE SMALL AND MEDIUM ENTERPRISES IN THE EU

ABSTRACT

The EU economy and other world economies are significantly influenced by globalization. This process includes freedom of movement of production factors on the global market. Globalization affects all segments of the economy, and especially small and medium-enterprises, which occupy the largest share in the structure of enterprises, in employment and the overall added value. The research problem of this paper stems from the still unknown effects of globalization processes on the European small and medium enterprises Globalization could result in potential negative effects on competitiveness, labor market, and the emergence of various forms of unfair trading practices. This research aims to provide an overview of the theoretical aspects of globalization, to analyze the current state of small and medium enterprises on the EU Internal Market and to identify scientifically based challenges and perspectives of the development of European small and medium enterprises in the context of globalization. The purpose of the research is to determine the effects of globalization processes on European small and medium enterprises. By conducted research, positive effects of globalization on the European small and medium enterprises were identified. Effects of globalization are mostly evident in increasing numbers of active enterprises, increasing levels of employment and total value added. On the other side, the key challenges of the small and medium enterprises in the context of globalization arise from new demands of consumers and problems in finding adequate workforce. The conducted research is based on secondary data collected from relevant international statistical databases and official publications and research of European and international organizations.

Key words: *EU, globalization, Internal market, small and medium enterprises.*

1. Introduction

Globalization is a comprehensive and complex process that has 'captured' the World and Europe after the end of World War II. The basic point of this process was to ensure peace and long-term stability, which are complemented by other economic and social goals (Krešić,

1996). Globalization seeks to comprehensively open up the world economy by removing existing qualitative and quantitative barriers. Therefore, according to Natek and Natek (2000), it is impossible not to mention its connection with the establishment of the General Agreement on Tariffs and Trade (GATT) and its basic principles (reciprocity, liberalization and non-discrimination). Therefore, the foundations of globalization processes rest on liberalization, which refers to the reduction and removal of customs and other barriers, with the aim of facilitating international economic activities.

Given the complexity of the term, there is still no consensus among economic theorists on its definition. According to Dujšin (1999), globalization implies the international integration of factors of production, while Turek (1999) defines globalization as a social process which aims to achieve unity worldwide. Relying on the theory of globalism, Rodin (1999) states that the globalization processes significantly change the population paradigm about the world, the economy and their legitimacies. A comprehensive approach to defining this term is given by Milardović (1999), according to which globalization, which makes the world smaller and smaller, emerges as a result of changes in science, technology, business practices and due to reforms of political systems. As such, it has enabled the free movement of production factors at national and global levels. According to Muller (2006), globalization has resulted in the increasing erosion of the nation-state and the ceding of powers to supranational structures.

Lončar (2005) highlights multinationals as a central element of globalization, which have a significant impact on the economies of transition countries. According to Dragičević (1996), multinational companies transfer capital and resources from one country to another, thus forming specific levels of economic performance and significantly affecting the labour market. Also, according to Lončar (2005), multinationals have become more powerful than nation states. The effects of globalization can be viewed through its economic and political/legal aspect (Dujšin, 1998). Zsifkovis (2000) points out that globalization results in positive effects for the world economy, since it triggers the deployment of factors of production and thus contributes to the achievement of global well-being. Milardović (1999) also emphasizes the importance of considering cultural, environmental and social aspects of globalization processes. Moekotte and Freye (2008) emphasize that the globalization and domination of multinational companies result in adverse effects due to the increasing exploitation of resources and the inability of nations to preserve national identity.

Globalization trends significantly affect the way the European small and medium enterprises (SMEs)[1] do business. SMEs set in motion the whole European economy. According to the European Commission (1) (2019), SMEs make up 99.8% of European businesses, generate 66.6% of the total employment and participate in 56.4% of total European added value. In the context of globalization, there is a growing need for SMEs in terms of constant investments in R&D (Tomljanović, 2017), with the ultimate goal of higher productivity and international competitiveness. Such contemporary challenges have resulted in increased needs for modernization of business processes, as well as skilled and adaptable workforce; while the share of low-skilled workers is shrinking and they are becoming the most vulnerable group on the labour market (Timmermans and Katainen, 2017).

The research problem of this paper stems from the still unknown effects of globalization processes on the European small and medium enterprises. Globalization could result in potential negative effects on competitiveness, labour market, and the emergence of various

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[1] According to the classification of the European Commission (2) (2019), the group of small and medium-sized enterprises includes enterprises with fewer than 250 employees and an annual turnover of less than EUR 50 million.

forms of unfair trading practices. This research aims to provide an overview of the theoretical aspects of globalization, to analyze the current state of small and medium enterprises on the EU Internal Market and to identify scientifically based challenges and perspectives of the development of European small and medium enterprises in the context of globalization. The purpose of the research is to determine the effects of globalization processes on European small and medium enterprises.

The study is divided into six interconnected sections. The study begins with introductory considerations explaining the concept of globalization and its relationship with SMEs. Basic elements of the research are then defined. Following the introduction, the research methodology is presented, followed by a statistical analysis of key indicators for the development of European SMEs in the context of globalization. The analysis carried out formes the basis for the determination of scientifically based challenges for the development of European SMEs in the context of globalization. The paper ends a synthesis of key findings obtained during the research.

2. Research methodology

The paper brings a descriptive analysis of European SMEs in the context of globalization. The secondary data used were collected from Eurostat and the World Bank. Depending on the availability of the data, it covers the period 2009-2018. The KOF index was used as an indicator of globalization. It measures economic, social and political globalization. Economic globalization refers to the flows of money, capital and transactions, the social one implies interaction with other countries, while the level of political globalization evaluates the involvement and adaptation to international politics (Dreher, 2006). The situation and development of European SMEs has been analyzed using business demography indicators, which include: (a) the number of active enterprises; (2) the number of start-ups; (3) the number of failed businesses; (4) employment in European SMEs. Performance indicators of small and medium-sized enterprises are also analyzed; through trends of the: (a) Value added (2008 = 100), and (2) Real labour productivity per hour worked (2010 = 100). The adaptation of European SMEs to the conditions of globalization has been analyzed using innovation indicators, which include: (1) R&D funded by business enterprise sector (% of total); (2) High tech export (% of manufactured export); (3) Share of turnover of enterprises on e-commerce (%); (4) Employment in high tech sectors (% of total employment); (5) Human resources in science and technology (HRST, % of active population).

3. Analysis of European small and medium-sized enterprises in the context of globalization

The data from Table 1 indicate that 26 EU Member States have improved their positions with respect to the KOF Globalization Index over the observed period, compared to the beginning of the period. However, a more detailed analysis indicates that the global economic crisis has had a significant impact on globalization indicators of European countries, while the largest fluctuations were recorded in the period 2009-2013. Thereafter, growth has mainly resumed and went on until 2017. Most recent reports indicate that Switzerland is the leading country according to the KOF Globalization Index, followed by the Netherlands, Belgium and

Sweden. Furhermore, it should be noted that among the top 10 countries according to the KOF Globalization Index, there are 9 EU Member States.[2]

Table 1: KOF Index of Globalisation in EU Member States in the period 2009 – 2017

Year Country	2009	2010	2011	2012	2013	2014	2015	2016	2017
Austria	88.5	88.2	88.4	88.6	88.3	89.4	89.0	89.0	89.1
Belgium	89.9	90.0	90.1	90.1	90.1	91.1	90.5	90.5	90.7
Bulgaria	77.5	77.1	77.4	78.7	79.6	80.3	80.3	80.4	80.7
Cyprus	80.8	81.4	81.4	81.4	81.0	83.1	78.0	78.7	79.1
Czechia	82.4	82.8	82.8	83.6	83.5	84.9	85.0	85.3	85.7
Germany	87.1	87.0	87.2	87.3	87.4	87.7	87.6	88.3	88.7
Denmark	87.8	88.3	88.5	87.9	88.2	88.8	89.0	89.2	89.3
Spain	82.7	83.2	83.7	83.8	84.0	85.0	85.2	85.5	85.8
Estonia	80.1	80.7	82.1	82.6	82.7	83.0	83.7	83.6	83.9
Finland	85.8	85.9	86.0	86.7	86.5	87.5	87.2	87.2	87.7
France	85.6	86.4	86.5	86.9	86.8	87.7	87.5	87.3	87.4
United Kingdom	88.5	88.8	89.2	89.2	89.2	89.0	89.2	89.5	90.0
Greece	79.9	79.7	80.1	80.2	80.8	81.9	81.5	81.6	82.4
Croatia	77.6	77.3	77.3	78.0	78.1	80.1	80.3	81.2	81.3
Hungary	85.8	85.6	85.0	84.9	84.9	86.2	85.0	85.0	85.1
Ireland	88.1	88.5	88.2	88.7	88.7	88.8	89.0	88.7	88.8
Italy	80.5	81.0	81.3	81.2	81.3	82.2	82.5	82.7	83.4
Lithuania	75.5	76.8	77.5	77.7	78.9	79.5	80.3	80.8	81.3
Luxembourg	87.5	87.4	87.5	87.3	87.3	87.4	83.8	83.6	83.6
Latvia	72.4	73.5	74.3	75.2	75.8	76.1	76.5	80.2	80.3
Malta	77.5	77.9	78.2	78.5	78.3	79.0	78.3	78.3	77.9
Netherlands	88.5	89.0	89.3	89.6	89.9	90.8	91.3	90.9	91.2
Poland	78.8	78.5	78.7	79.6	80.0	80.8	81.5	81.4	81.5
Portugal	81.8	82.3	82.8	82.2	81.6	83.0	83.4	83.8	84.9
Romania	76.4	76.7	76.8	77.4	77.9	79.1	79.6	79.6	79.8
Slovakia	82.0	82.0	82.2	81.9	81.9	83.2	82.9	83.0	83.7
Slovenia	78.9	79.3	79.7	79.4	79.7	80.9	80.9	81.2	81.1
Sweden	89.3	89.3	89.0	88.8	88.8	90.4	90.4	89.9	90.1

Source: Dreher (2006); Gygli et al. (2019)

Positive globalization trends are accompanied by positive trends of business demographic indicators (Table 2), which include: the number of active enterprises in the EU, the number of start-ups, the number of failed enterprises and the number of employed in active enterprises. All during the period of 2009-2017. Available data suggest that the EU has seen an increase in the number of active enterprises and the number of start-ups. An increase in the number of active enterprises has been achieved in 20 Member States, while the countries with the largest number of active enterprises are Italy, France, Spain and Germany. In the case of start-ups, positive developments were made in 19 Member States, with the highest values being achieved by France, the United Kingdom and Spain. However, a more thorough analysis needs to be carried out with these indicators. A survey of the situation in all Member States

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[2] EU's most significant „competitors" are ranked as following: the USA (23rd), South Korea (34th), Japan (37th), Russian Federation (51st), and China (80th).

indicates that the greatest fluctuations of individual indicators were recorded in the period from 2009 to 2013. That is the crisis and post-crisis period. Also, negative effects of the economic crisis have been more intensive in the more advanvced countries, whose business environments represent the drivers of European entrepreneurial activity. This is evidenced by the fact that during the observed period the number of failed enterprises in the EU increased – which has been reported in 15 Member States; especially in Italy, Spain and Germany. However, the trend of the increasing number of failed enterprises is not only a consequence of the negative effects of the economic crisis but also of the new challenges of globalization – in the form of increased competition, technological changes, education, training and the need for internalization (which has been analyzed in more details in the following sections oft he paper). In the observed period the EU also recorded an increase in employment in active enterprises; which was reported in 19 EU Member States.

Table 2: Indicators of business demography in EU Member States in the period 2009 – 2017

Indicator Year	Number of active enterprises	Number of start - ups	Number of failed enterprises	Number of employed in active enterprises
2009	23,986,411	2,375,474	n.a.	137,600,773
2010	24,052,852	2,327,763	2,171,156	135,000,000
2011	25,159,092	2,388,541	2,310,451	139,895,715
2012	25,766,957	2,372,394	2,270,051	140,577,347
2013	25,928,099	2,469,750	2,215,838	138,513,217
2014	26,227,556	2,581,083	2,100,000	142,913,930
2015	26,540,130	2,549,753	2,070,000	144,000,000
2016	26,982,729	2,641,664	2,225,852	150,000,000
2017	27,522,200	2,659,318	2,200,000	150,000,000

Source: authors; according to Eurostat (1)(2019)

Furthermore, data from the European Commission (2019) indicate a constant increase in the value added of SMEs and an increase in labour productivity (Eurostat (2), 2019). The improvements identified so far in the demographics and performance of European SMEs could be linked to their increasing orientation to innovativeness indicators (Table 3).

The data in Table 3 indicate that the scientific and research activity of SMEs in the EU has risen in the observed period. Within that, business sector investments in R&D activity increased to 58% of total R&D investments in 2017. The increasing orientation of the business sector to modern sources of competitive advantage should also contribute to the creation of new, high-tech products, which should gain a significant share in exports. However, the data suggests that the situation varies and a decrease has acctually been recorded since the beginning of the period. This situation poses a significant challenge in the further enhancement of business activities of SMEs.

Table 3: Innovativeness indicators of European Small and Medium Enterprises

Indicator Year	R&D funded by business enterprise sector (% of total)	High tech export (% of manucaftured export)	Share of turnover of enterprises on e-commerce (%)	Employment in high tech sectors (% of total employment)	Human resources in science and technology (HRST, % of active population)
2009	54.1	17.35	12	5.60	40.1
2010	53.8	17.57	14	5.50	40.8
2011	55	16.93	14	5.60	42.3
2012	55.1	17.43	15	5.60	43.1
2013	55.2	17.48	14	5.60	43.8
2014	55.5	17.40	15	5.70	44.5
2015	55.3	18.00	17	5.70	45.2
2016	57	18.24	16	5.80	46
2017	58	16.69	18	5.80	46.6
2018	n.a.	16.25	17	5.80	47.5

Source: authors; according to Eurostat (3)(2020), World Bank (1)(2020), Eurostat (4)(2020), Eurostat (5)(2020), Eurostat (6)(2020)

On the other hand, the pressures of globalization and the increasing emphasis on digital business transformation have influenced the orientation of businesses toward various forms of e-commerce. European SMEs are generating positive values in this segment and are generating 17% of total traffic through e-commerce activities. Furthermore, the increasing orientation to new technologies has also resulted in increased employment in the high technology sectors, which represent 5.8% of total employment. Also, related to that, there is an increase in human resources in science and technology in European SMEs, which accounts for 47.5% of the active population.

European SMEs, except for business demographics, are making some progress in innovation indicators, which is necessary to make them internationally competitive. Still, the EU lags behind its main competitors in key innovation indicators (Table 4).

Table 4: Comparison of EU and major competitors in key innovation indicators for 2017

Indicator Year	R&D (% of GDP)	R&D funded by business enterprise sector (% of total)	High tech export (% of manucaftured export)
EU	2.02	58	16.25
SAD	2.78	63.6	18.89
South Korea	4.55	76.2	36.64
Japan	3.2	78.3	17.26
China	2.15	76.5	30.88

Source: authors; according to Eurostat (7)(2020), Eurostat (3)(2020), World Bank (1)(2020)

South Korea is the world leader in key innovation indicators; especially given the total R&D investment and export of high technology products. The largest scientific research activity of enterprises is present in Japan. Considering the performances of the EU SME's it is obvious that it is lagging behind in all areas of innovation compared to its main competitors. This

basic overview fully affirms the thesis that it is necessary to direct further efforts of European policies, strategies and future action plans towards strengthening the scientific and technological fundaments of the European industry and its SMEs, especially to improve their competitive position and to address key challenges of globalization.

4. The effects of globalization trends on european small and medium-sized enterprises

Comprehensive globalization of the world economy and its related processes have created a new business paradigm, which has resulted in significant effects on European SMEs. Consequently, two opposing streams emerged, i.e. proponents of globalization and anti-globalization. Kostovski and Hristova (2016) indicate that advocates of globalization affirm the positive effects of the process on SMEs in terms of inclusiveness, connections and integration into global economic, social and political processes, resulting in the spill-over of knowledge and technologies, the spread of modern trends and positive effects to enterprises. On the other hand, anti-globalists deny the positive effects and identify globalization as a key source of global economic crises, increasing inequality and erosion of the welfare state. The dominance of individual effects largely depends on the willingness and ability of economic operators to adapt to new business conditions and their requirements.

Lee and Carter (2005) point out that globalization processes have contributed to market integration, trade liberalization and the development of innovations and other new success factors, which provide modern SMEs with new opportunities for business accomplishments. In such conditions, innovative SMEs stand out as the biggest 'winners', with their activities creating the foundations for increased competitiveness, as well as for facing increasing foreign competition – which has been identified as the greatest threat in a globalized business environment. Among other effects, the same authors also point to the dynamics and direction of movement of financial capital, concentration of capital and changes in the international division of labour. Lesakova (2014) states that globalization encourages small and medium-sized enterprises to improve the quality of business and manufacturing processes, which ultimately results in new, more advanced and higher quality products and services necessary to achieve international competitiveness. Similar views (United Nations, 2009) emphasize that the competitiveness and success of small and medium-sized enterprises in the context of globalization and trade liberalization are changing the structure and nature of exports, as the most important component of international trade. Thereat, international competitiveness can no longer be based solely on low prices, but the emphasis is on compliance with international standards, flexibility, product differentiation, as well as networking and international contacts. Moekotte and Freye (2008) state that business activities and the adaptation of SMEs to the context of globalization result in increased national well-being due to specialization of trade, decreased inflation, increased consumer benefits and changes in the distribution of natural, financial and human resources. In addition to positive effects, Moekotte and Freye (2008) cite the negative effects of globalization on SMEs, placing particular emphasis on the workforce and the conditions in which their required knowledge and skills are constantly changing, resulting in changes in qualifications and employment structure, especially present in developed countries.

Jambrek and Penić (2008) emphasize the orientation and development towards the implementation of the concept of the 'knowledge economy', which in its essence has a skilled, motivated and flexible worker, capable of facing contemporary challenges. In such a balance of power, those workers who do not have adequate knowledge and skills will find themselves in an unfavourable position on the labour market, whilst endangering their existence and other social aspects (Jakovljević et al. 2012). All of the above emphasizes the need to develop and

implement lifelong learning concepts. According to Ratten et al. (2007) SMEs often face a lack of resources needed to 'improve' and train workers, as well as to increase their innovative capacity. All of the above points to the need to strengthen and develop human capacities, which has been recognized as a key development goal in the works of contemporary economists (Tomljanović, 2017). There are also problems in securing financial, managerial and social capital. Furthermore, domestic markets, especially in smaller and less developed countries, often lack key resources, and therefore internationalization represents the only way to access technologies, resources and *know-how.*

Ristovska and Ristovska (2014) provide a comprehensive breakdown of the effects of globalization trends on European SMEs and classify them into three key groups: (1) The development of information and communication technologies; (2) economies of scale and cost reductions; and (3) „standardization" of the global consumer profile. According to this clasification, the increasing focus on R&D investment and their products has contributed to the rapid development of information and communication technologies (ICT), which are changing the ways of the modern business. At the same time it is necessary to distinguish a faster flow of information and the possibility of networking, which enable all companies (regardless of size, location, etc.) to have equal positions in international business. The effects of ICT development are clearly manifested by increased changes in international business, especially in terms of improving communication, decision-making and streamlining business costs. The increasing use of ICT is bringing about changes within the internal structures of enterprises and the division of labour, as well (Lesakova, 2014). Rapid access to new markets also opens up new opportunities for the effective absorption of technology and other missing resources, which largely determines their further development and progress (Frynas and Mellahi, 2011).

Furthermore, focusing on new sources of competitiveness and streamlining business inevitably results in economies of scale and diminishing costs. Likewise, a growing number of companies are focusing on opening branches and relocating manufacturing facilities to countries with lower labour costs, adaptive legislation and less stringent environmental legislation. Regarding consumers, which are a key element of the activities and strategies of SMEs, the characteristics and preferences are becoming more uniform. 'Uniformization' is especially present in the areas of education, lifestyle, purchasing power and preferences for high technology and quality (innovative) products. This phenomenon, in the context of international trade liberalization and the openness of international supply chains, offers great opportunities for SMEs to break through and compete in the global market. According to the European Commission (2019) the international activity of small and medium-sized enterprises is responsible for 1/5 of the growth of the living standards in EU Member States.

5. Challenges and perspectives of European small and medium-sized enterprises in the context of globalization

Research to date suggests that the greatest challenge for European SMEs within globalization is to achieve international competitiveness. Competitiveness is a complex and comprehensive term that has captured the attention of economic theorists over the last fifty years. However, given the differentiated views, it is very difficult to determine a single definition. Recent works define competitiveness as *"the ability of a country to maintain a balance of trade, create new jobs and ensure an increase of household incomes, in free and fair market conditions. At the same time, great emphasis was placed on satisfactory levels of investment, without increased levels of public debt and with respect for environmental goals"* (Djogo and Stanišić, 2016). Šegota et al. (2017) build on that approach, stressing that *"competitiveness is*

the ability of a country to achieve sustained economic growth, which ultimately contributes to increasing the well-being of the population, also assuming increased employment and reduced and/or stable levels of public debt. Besides the need to increase exports, countries also need to adapt to globalization trends, which places significant emphasis on R&D investment, increasing exports of high-tech products and creating a favourable environment for foreign direct investment." Taking into account the research of economic theorists to date, the authors consider that the *international competitiveness of European SMEs stems from their ability to maintain market positions vis-à-vis domestic and global competitors. The key element is the production of high value-added products with competitive prices. Likewise, importance of continued education and training for the workforce is emphasized, as a precondition for success in the global market.*

The competitiveness of small and medium-sized enterprises is closely linked to the efficient use of resources. According to Bel et al. (2018) competitiveness of an enterprise depends largely on the difference between its internal resources and the competitors' resources. Therefore, SMEs with developed patents, licenses etc. (intangible goods) should achieve more competitive positions. Modern business conditions encourage companies to operate outside their local or national market, which puts increasing emphasis on internationalization. According to Kunkongkaphan (2014), the existence of strong domestic competition has a positive effect on the efficiency and productivity of domestic enterprises and motivates them to become better. Therefore, SMEs are more motivated and open to approach to foreign markets. Still, achieving this position requires an orientation towards *"modern growth engines"* and constant development of high value-added products and services. *"Enterprises must have dynamic competitiveness, that is, to be able to respond flexibly, quickly and permanently to changes"* (European Commission (6) (2019)).

The challenges of European SMEs are evident from the European Commission's 2018 survey, which shows that the biggest problems for them are finding customers and the availability of skilled labour and experienced managers. Also, increased competition, legislation as well as labour and production costs were identified as significant issues. Some optimism stems from the fact that access to finances has not been put forward as 'the crucial' problem for SMEs. These results regarding challenegs potentially point to the effectiveness of European entrepreneurship policy and the provision of conditions for the use of direct and indirect financing (European Commission (3), 2019). In addition to these challenges and 'problems', a survey by the Association of Crafts and SMEs in Europe (2019) indicates that European SMEs perceive digitalization and its accompanying elements as the biggest challenge. In addition to globalization and digitization, significant challenges for European SMEs include: technological advancements, demographic changes, the business orientation towards environmental protection, the development of green products and services, and the circular economy.

In line with the abovementioned, in 2019 the EU conducted a survey on the innovation activities of SMEs. The survey identified key constraints on innovation activities in European businesses. The results indicate that European companies identify as the greatest obstacle to innovation activities a lack of internal and external sources of funding, high costs of undertaking scientific research activities, and a lack of required knowledge/skills within business systems. Also, growing competition and complicated procedures for accessing public tenders were recognized as limiting factors (European Commission (5), 2019).

Although the EU tries to affirm itself as an enabling environment for business development, it is faced daily with the fact that the population is less and less inclined to undertake

independent entrepreneurial activities. The reasons for this situation are multiple. According to the European Commission (4)(2020), 37% of EU citizens are prone to self-employment through starting their own businesses, which is noticeably lower level compared to the one in the USA and China (51%). Europe's key challenges in the area of entrepreneurial activity are the deficiencies in the education system (with particular emphasis on aspects of entrepreneurial education), hampered access to finance, obstacles to transfer of ownership, major "penalties" for business failure and restrictive administration.

Leaskova (2014) states that the main factors determining the future success of SMEs in the new world of globalization are networking, the implementation of new information and communication technologies, the development of innovation, and the implementation of strategic small business management. The problem of dynamic competitiveness as a way to find new customers should definitely include new forms of strategic alliances (i.e. clusters), which require the development of new business models. Kunkongkaphan (2014) points out that SME clusters have proven effective in increasing the level of enterprise productivity and the level of penetration in the international market.

Given their importance to the European economy, in 2017 the EU launched a debate on the future of European SMEs. The report of the Association of Crafts and SMEs in Europe (2019) points to the need to make progress in three key areas: (1) Better conditions for growth and job creation; (2) Improving the conditions of business on the Internal European Market; and (3) Achieving a stable social and political environment. In the context of achieving these priorities, the EU should become attractive for foreign investment, create the conditions for a fair distribution of the positive effects of globalization and technology development, maintain and enhance the openness and fairness of the Internal Market and the functionality of economic governance, while maintaining the stability of the euro area.

6. Conclusion

The entire global economy, including the EU economy, has been facing a continuous and dynamic process of globalization in recent decades. Which, with its positive and negative effects, has greatly changed the ways of doing business and achieving international competitiveness. In addition, modern economic developments have had significant effects on European SMEs, which, because of their importance for European economic growth and because of their significant share of total employment, are a major driver of the EU economy. The analysis indicates an increase in the total number of SMEs, an increase in employment in active enterprises, and an increase in output. Improvements in value added and productivity growth have also been identified. These values can also be linked to the growing focus of European SMEs on R&D investment and its outputs; a key way to gain international recognition. The perspectives of European SMEs is largely linked to a further orientation towards the elements of a knowledge economy and enhanced cooperation through various forms of association and merger. This determines the basic scientific contribution of the paper. The research detects that the European companies' lag behind in innovative activities relative to their main competitors, which is a key challenge for EU development strategies. Further research should focus on quantitative analysis of the effects of globalization trends and innovative activities on improving the performances of European SMEs.

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POSSIBLE GUIDELINES FOR ENHANCE ENTREPRENEURIAL ECOSYSTEM

ABSTRACT

New practices and tools to address integration processes with entrepreneurship movements in universities are needed. As natural partners in developed countries, universities and society seek to work together in order to complement their knowledge, human resources and R&D laboratories, among others. Nowadays, creating solutions requires sources of creativity beyond the companies' boundaries, involving cooperation with customers, suppliers, research institutes and even competing companies. This co creation demands greats dynamics, being universities the preferred partners in new technological fields where business results are uncertain and knowledge are crucial. However, even if enterprises with strong dynamic capabilities are intensely entrepreneurial, they not only adapt to business ecosystems, but also shape them through innovation and through collaboration with other enterprises, entities, and institutions. Entrepreneurial ecosystem refers to the environment that affects the local/regional entrepreneurship, such as culture, policies, cooperation, networks, and others. Porto University (U.Porto) offers a great example for studying this theme, as it is a reference unit for management and a source of value creation to the university and start-up companies originated from it. This study aims to explain and share best practices in U.Porto and try to understand how can some of them be exported to other Higher Education Institutions, namely to the Polytechnic Institute of Cávado and Ave (IPCA). Using primary data and interviews with responsible from the city of Porto, the results could be practical guidelines for potential implementation as well as replications on IPCA Schools, in Portugal and elsewhere.

Key words*: co-creation, entrepreneurship, innovation, entrepreneurial ecosystem, U. Porto.*

1. Introduction

The main role of entrepreneurship while trigger of economic growth can be easier if supported by coordinated entrepreneurial ecosystems (Mason & Brown, 2014; Isenberg & Onyemah, 2016) that can be used as sets of entrepreneurial actors, entrepreneurial organizations, institutional and entrepreneurial processes who connect, mediate and manage performance within the local business environment (Isenberg, 2011). This means, among others, links between entrepreneurs, educators, corporations and media (Bloom & Dees,

2008; Wessner, 2005) who develop academic skills and competences to what concerns entrepreneurship (Isenberg, 2011). Inside the entrepreneurial ecosystem it can be pointed out the Human Capital, funding supports, Mentoring and coaching, Government, regulations, education and training, cultural supports and leadership (WEF, 2013; Feld, 2012; Isenberg, 2010). Also academies are relevant as education helps to develop entrepreneurial intentions among the community (Honig, 2004) and community helps academy to identify problems/opportunities that need solutions and must be grasped (Spilling, 1996; Neck, Manz, and Godwin, 1999). This study aims to explain and share best practices in Porto University (U.Porto), Portugal and try to understand how can some of them be exported to other Higher Education Institutions, namely to the Polytechnic Institute of Cávado and Ave (IPCA), Portugal. Using primary data and interviews with responsible from the city of Porto, the results could be practical guidelines for potential implementation as well as replications on IPCA Schools, in Portugal and elsewhere.

2. Entrepreneurial Ecosystems on Universities

An ecosystem consists of a biological community, its physical and chemical environment, and the dynamic interactions that link them. Ecosystems can also be thought of as energy transformers and nutrient processors. A diversity of ecosystems exists throughout the world and can be classified according to their functional groups and physical context. Insights into the structure and function of entire ecosystems can be revealed through whole ecosystem experiments, management experiments, and natural stable isotope analysis (Salomon, 2008). Ecosystems appear to develop within geographical areas that are defined for the proximity of the participants. A region needs tangible assets (working capital, risk, IR&D, technology commercialization, Human Capital, physical infrastructure, industrial base), intangible assets (network opportunities, culture, community attitudes) and business climate assets (government policies, quality of life). But they do not arise anywhere, as an established knowledge base is needed and a considerable number of scientists and engineers. In this sense, universities, Research Institutes and Laboratories are responsible for fostering the ecosystem, where discoveries and advances in knowledge form the basis for the creation of new business, maintaining the creation of spin-offs as a cyclical process (Mason & Brown, 2014).

Universities have an important role inside the ecosystem as they are the catalysts for technological innovation (Bramwell, Hepburn & Wolfe, 2012) and are able to attract financial resources, Humans resources and knowledge from other places. Isenberg (2011) suggests that universities must belong to an entrepreneurial strategic ecosystem (universities, public organizations, companies, business angels, Banks and others) where all players must be connected, aiming to promote the local development as this innovative interactive model reinforces the knowledge and technology transfers (Etzkowitz & Leydesdorff, 1998) as well as fulfils their role as protagonist in the development of society, dealing with societal, environmental and economical development. Universities must move from their traditional teaching role to entrepreneurial universities (Peppler, 2013). Universities must be vibrant ecosystems of entrepreneurship (De Jaeger, Mithembu, Ngowi, & Chipunza, 2017), characterized by the breadth and depth of offering initiatives in three major dimensions: academic entrepreneurship, company support and entrepreneur behavior (Peppler, 2013).

3. Empirical Evidence and Results

3.1. Methodology

The study was carried out during 2019 and the main *focus* was the Universidade of Porto (U.Porto), Portugal. This research is a case study, were semi structured interviews were used

to allow interviewers to have more freedom to answer in accordance to their own experiences concerning academic degree and knowledge about the present topic (Marconi & Lakatos, 2017). The collected data included secondary data from scientific publications and materials from the city of Porto. The primary data were directly collected on UP, through its internal and external players linked to entrepreneurial education, namely management, professors, instructors, students, specialists or entrepreneurs. The interviews (ten) were conducted between May and October 2019.

The starting point of this investigation was: "Does UP really positively impact the Entrepreneurial ecosystem in Porto region?". In addition to the research question, it was essential to outline general and specific objectives. The present study has as main objective to share knowledge about the social and economic value of U.Porto. It starts by presenting a brief history since its foundation on the XVIII century until now as well as communicate its positioning and strategy for the medium and long term. With the general objectives it intends to identify U.Porto:
• Structure, Human Resources skills and educational quality standards;
• Close connection with national and international scientific research, local businesses, cultural and arts institutions, as well as museums, and the two central city hospitals.

With the specific objectives it is additionally intended to identify U.Porto:
• Focus on areas that will reap more social benefits and economic externalities;
• Strategic initiatives to promote culture innovation, particularly through the structure of UPIN;
• Dynamics business incubators on UPTEC;
• Focus on maintaining leadership in the field of valuing knowledge in Portugal and strengthening its positioning and prestige within the international scenario;
• Internal development.

3.2. Data Collection

3.2.1. Framework

The University of Porto (U.Porto) was founded on the XVIII century, being the biggest institution of teaching and researching in Portugal. It is located on Porto, the second town on Portugal, in 3 different Poles (Town center, Asprela and Campo Alegre), gathering 31.000 students, 2.300 professor and researchers. It gathers 14 Faculties, 1 Business School, 1 Entrepreneurial Center, 69 Research Units and Competitions and Business Plans. Its main areas of acting are: Architecture, Arts, Law, Health Sciences, Management, Engineering, Education and Business, among other (U.Porto, 2019). The University's Human Resources also include highly qualified administrative and technical officers, who are responsible for maintaining the institution fully operational and, to a fair extent, successful. The quality of U.Porto's teaching is strengthened by a close connection to scientific research, local businesses, cultural and arts institutions, as well as museums, and the two central city hospitals.

The increase in quality, of both the R&D+i activities, by promoting the integration of findings in the social and economic fabric, and training activities, by promoting qualification and employability, inevitably leads to creating value in society. The U.Porto intends to continue to actively participate in the sustainable development of nations, satisfying the most demanding expectations of its public, primarily investing in the development of integrated partnerships with institutions that share the same strategic vision: the development of added value activities with strong international orientation and visibility. The University will

continue to focus on stimulating economically valuable research, emphasising the areas that will reap more social benefits and economic externalities, bearing in mind their relevance for the University's target audiences. The U.Porto will therefore develop the ability to: i) promote strategic partnerships to fund technology-based or socially differentiating companies, ii) promote social entrepreneurship and volunteering work and iii) promote scientific, cultural and artistic dissemination, by stimulating a culturally and technologically wealthy society. By mastering these abilities, the U.Porto will be ready to contribute to a knowledge-based ecosystem and the stronger the University the greater its ability is to strengthen the ecosystem (U.Porto, 2011), as seen in Figure 1.

Figure 1: Social and Economic Value of U.Porto
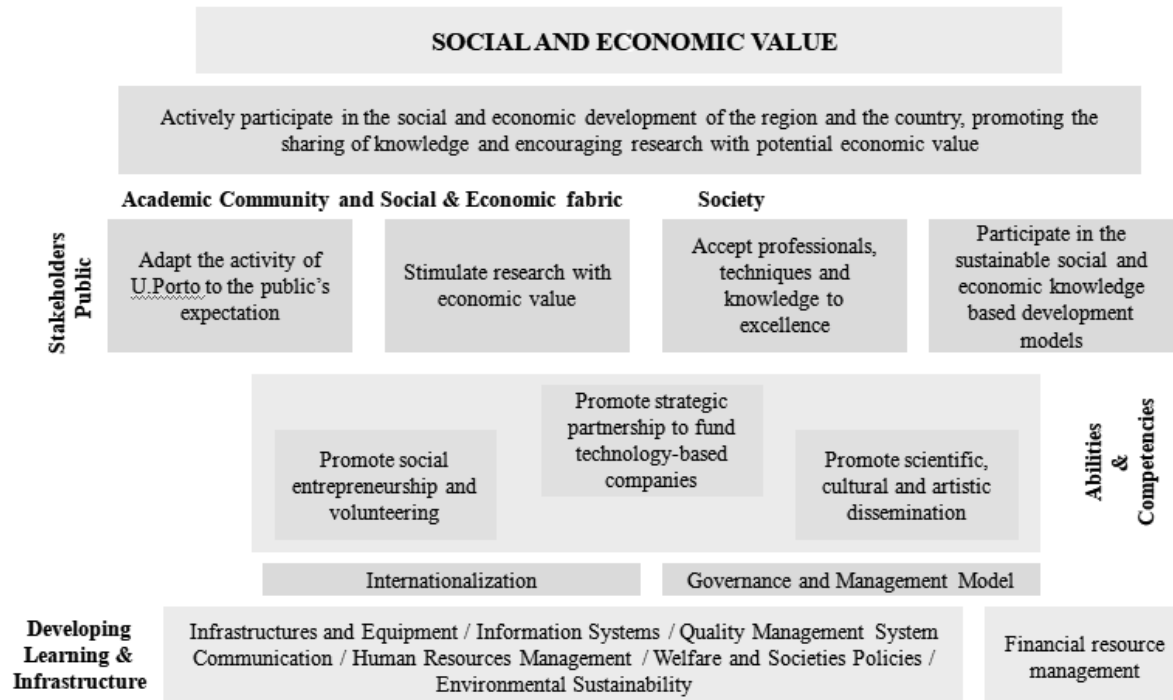
Source: U.Porto, 2011

U.Porto also identifies as strategic the maintenance or strengthening of initiatives to promote culture innovation, particularly through the structure of U.Porto Inovação (UPIN), created in 2004, with the purpose of supporting the University's innovation value chain by fostering the transfer of knowledge and reinforcing the bond between the University and businesses. With over 15 years of experience, U.Porto Innovation focuses its activities on research at the University, entrepreneurship within the academic community and U.Porto's growing connections with industry.

The University of Porto is now a major producer of science in the country, responsible for over 23% of the Portuguese scientific articles indexed in the ISI Web of Science. Its secret lies in the daily work of some of Portugal's most productive and renowned research and development (R&D) centres, spanning the various fields of knowledge from the humanities to science and technology. Also the University of Porto is a birthplace of innovation in itself as illustrated by the Science and Technology Park of the University of Porto (UPTEC). It is a facility which today accommodates over 200 companies and 30 technology-driven innovation centres in a variety of knowledge areas. Nerve centre of the University's strategy for capitalising on knowledge, UPTEC fosters business incubation and lends its support to entrepreneurship. U.Porto develops the valorization of knowledge by managing a value chain composed of four phases, namely: i) the initial transfer of knowledge, ii) training for skills in the management area, iii) promotion of new businesses and iv) a structure for incubating

these businesses. In other words, UPIN is linked to ideas already incipient (upstream of the innovation process) and focused on intellectual property rights. UPTEC is at the end of the value chain, receiving projects already with concrete requirements. There are no boundaries that limit each of the entities, as they are responsible for boosting the entrepreneurial ecosystem within the university seen as dynamic and alive.

With a focus on maintaining leadership in the field of valuing knowledge in Portugal and strengthening its position and prestige on the international scenario, the U.Porto created, in 2018, a new consultative body, the Innovation Advisory Board made up of professionals with extensive experience in the fields of innovation and entrepreneurship, alongside a strong knowledge of university and business realities. The U.Porto patents' portfolio already has more than 180 active patents in it, being divided in 5 main areas (Figure 2).

Figure 2: Active patents on U.Porto

Area 1	Area 2	Area 3	Area 4	Area 5
Health	Energy & Environment	Biotechnology, Food Technology & Agriculture	ITC, Electronics Electronics & Communication	Transport, Safety & Industrial Processes

Source: U.Porto, 2020

3.2.2. Internal environment

The internal environment of U.Porto that makes up the innovation entrepreneurial ecosystem are presented on Figure 3, wich is basically divided into eight large blocks as follows: (A) Physical Infrastructures, (B) UPIN, (C) Masters, Research and Technology Centres and Laboratories, Companies that have emerged from the entrepreneurial and innovative ecosystem, Business development spaces and Student´s Associations, (D) Technologies Portfolio, (E) Porto Business School, (F) Competition and Business Plan, (G) Entrepreneurial Centre of U.Porto and (H) UPTEC.

Block (A) is characterized by some of the most advanced and prestigious Portuguese research and development (R&D) units in the most knowledge domains, from Life and Health Sciences to Science Agrarian, from Engineering to Fine Arts and Humanities. The units feature a modern research infrastructure geared to the highest standards of quality with variable dimensions, purposes and organizational structures. At R&D units are integrated into organic units or interface institutes in which, in addition to the university, several public and private entities (industries, government agencies, etc.), which further enhance the connection to the community of activities R & D + i. There are still organisms that are inserted in Associated Laboratories, research units oriented towards the pursuit of scientific policy and technological change of the Portuguese Government.
The 26 Research and Development Centres are the following:

- Center for Neuroscience and Cell Biology (CNC)
- Institute of Molecular and Cellular Biology (IBMC.INEB)
- Institute of Pathology and Molecular Immunology, University of Porto (IPATIMUP)
- Institute of Chemical and Biological Technology (ITQB)
- Institute of Molecular Medicine (IMM)
- REQUIMTE - Chemistry and Technology Network - Association (REQUIMTE)
- Laboratory of Instrumentation and Experimental Particle Physics (LIP)
- Telecommunications Institute (IT)

- Laboratory of Robotics and Systems in Engineering and Science (LARSyS)
- Institute of Plasmas and Nuclear Fusion (IPFN)
- Research Center on Ceramic and Composite Materials (CICECO)
- Center for Social Studies (CES)
- Institute of Social Sciences (ICS)
- INESC Technology and Science (INESC TEC)
- Marine and Environmental Research Center (CIMAR)
- Center for Biotechnology and Fine Chemistry (CBQF)
- Center for Environmental and Sea Studies (CESAM)
- o   Dom Luís Institute (IDL)
- Separation and Reaction Processes Laboratory (LSRE)
- Institute of Systems and Computer Engineering: I&D Lisboa (INESC - Lisboa)
- Associated Laboratory of Energy, Transport and Aeronautics (LAETA)
- Institute of Biotechnology and Bioengineering (IBB)
- Nanotechnology Institute (IN)
- Institute of Nanostructures, Nanomodeling and Nanofabrication (I3N)
- ICVS / 3Bs - Associated Laboratory (ICVS / 3Bs)
- Biodiversity and Evolutionary Biology Research Network (InBIO)

Figure 3: The Internal Environment of U.Porto

Source: own elaboration
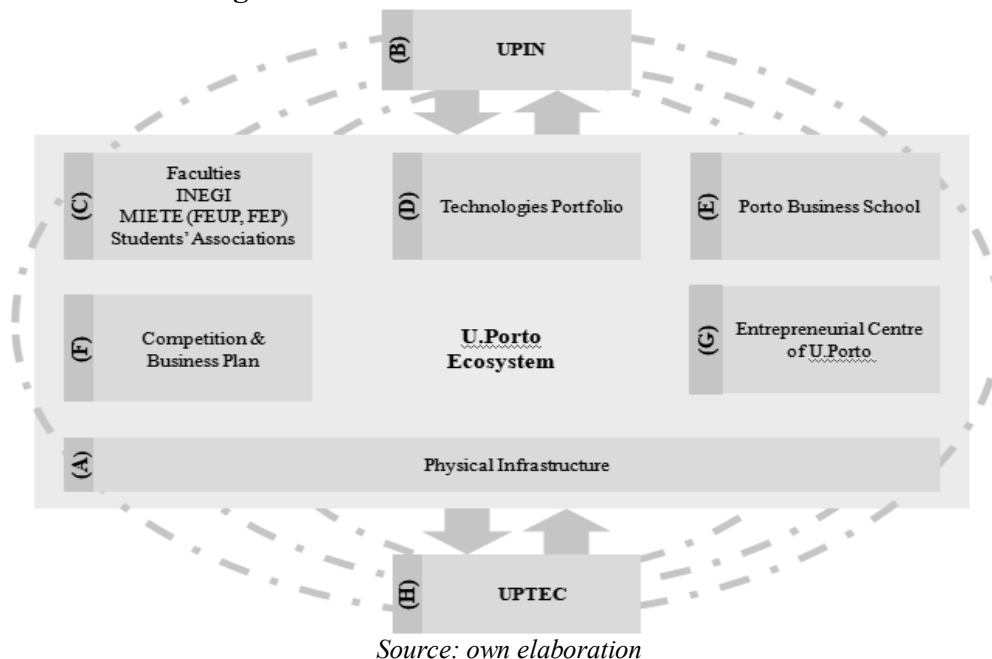
Block (B) has the purpose of supporting the University's innovation value chain by fostering the transfer of knowledge and reinforcing the bond between the University and businesses. With over 15 years of experience, UPIN Innovation focuses its activities on research at the University, entrepreneurship within the academic community and U.Porto's growing connections with industry. UPIN is formed by three main areas, namely: R&D and Innovation Support Programs; Enhancement of R&D Entrepreneurship and Business-University Interface. UPIN has an area called UPIN Ventures responsible for fostering entrepreneurship and where there are some incentive programs like Business Ignition Program (BIP), iUP25K, Startup Buzz, UPTech and Pitch me UP (UPIN UP, 2020).

Block (C) is build up with several initiatives and institutions of excellence, among which stand out:

- FARMA |inove, is an Association of Entrepreneurship and Innovation, Faculty of Pharmacy - University of Porto and is based on an entrepreneurial project with the ambition of creating new and innovative projects in the pharmaceutical area. It is based on qualified and innovative services, investing in staff training and research, innovation and development. The main purpose is to create value in a close relationship with the labour market, being itself an exporter of knowledge and technology within the Faculty of Pharmacy – University of Porto. The brand proves to be dynamic, young, innovative and willing to innovate.
- FEP JUNIOR CONSULTING is a Junior Consulting Company based at the Faculty of Economics. Made up of around 40 students, it is a non-profit association that aims to promote the personal and professional development of its members.
- INEGI is a Research and Technology Organization (RTO), bridging the University – Industry gap and focused on applied Research and Development, Innovation and Technology Transfer activities for the industry. It was founded in 1986, among what are now the Departments of Mechanical Engineering (DEMec) and of Industrial Engineering and Management (DEGI) of the Faculty of Engineering of the University of Porto (FEUP). Being a non-profit private association, recognized as of public utility and having its own team of 200 collaborators, INEGI is an active agent in the development and consolidation of a competitive model based on knowledge, on high product and process technological content and on technological innovation.
- JA Portugal is an alumni program from Junior Achievement Portugal that inspires and prepares children and young people to succeed in a global economy through transformative experiences based on three fundamental pillars: Citizenship and Financial Literacy, Education for Entrepreneurship and Skills for employability. This program is based on UPTEC but it is not developed by the U.Porto.
- MIETE is a master programme offered by FEUP (Faculty of Engineering) that promotes an integrated training of managers and entrepreneurs through a practical training (hands-on-approach). It is based on solid theoretical concepts and on a permanent and professional supervision, which enable the development of skills and knowledge in order to produce an efficient knowledge and innovation management in new businesses. These high potential new businesses may be developed in existing companies or by starting new companies.
- NEBUP is a youth association that brings together undergraduate students in Biology from the Faculty of Sciences (FCUP) and Aquatic Sciences from the Institute of Biomedical Sciences of Abel Salazar (ICBAS).
- STARTUP BUZZ is an entrepreneurship club, formed by an association of students from FEP (Faculty of Economics). It mainly helps young people with ideas of business in the embryonic phase, through a creative accompaniment using specific tools for that.

Block (D) is linked with Technologies Portfolio and as already mentioned, U.Porto has 240 active patents in five areas, namely: i) Health, Energy, ii) Environment and Construction, iii) Biotechnology and agri-food technology, iv) Information, Communication and electronic technologies and v) Transport and security. THE CIRCLE is a club formed by companies that have emerged from the entrepreneurial and innovative ecosystem of the U.Porto. Many participating companies bear the "U.Porto Spin-Off" brand, which recognizes them as having emerged from U.Porto's Research & Development and Innovation environment. It is a unique initiative that brings the U.Porto spin-offs together in forums to debate the main challenges facing companies within some of the most dynamic value chains in the world. U.Porto develops its innovation ecosystem in conjunction with these companies, streamlining the exchange of experiences and the improvement of their processes and business.

Block (E) is linked to the PORTO BUSINESS SCHOOL**,** a business school with unique characteristics. Created by a group of 36 organizations, national and multinational and by U.Porto, its mission is to prepare individuals and companies to be agents of change throughout life. This differentiating management model, which combines the pragmatism and real experience of companies with academic rigor and access to the most advanced research allow the ability to stimulate change, combining the know-how with the power to do, anticipating the future and creating the necessary skills for individuals and organizations.

Block (F) involves all competitions and business plan developed within the community. The main actions are teh following:

- A2B - Academia2Business promotes the meeting between research groups and companies with the aim of forming partnerships that ensure greater efficiency of transfer and knowledge valorisation.
- BIP is a Business Ignition Program, a business model iteration program for technologies developed in the academic environment, following the Lean methodology.
- GALA INOVAÇÃO is an event (Gala) assumed as one of the city's main innovation initiatives. The goal is to create a networking environment, which fosters the creation of synergies, capable of bringing closer the university and the business world.
- iUP25k - University of Porto Business Ideas Competition is an instrument of awareness of entrepreneurship and the creation of new companies based on knowledge and innovation exploration processes. It is one of the most important initiatives at a Portuguese level in the area of entrepreneurship, awarding 25,000 € in prizes and creating conditions for a healthy and positive competition among the best business ideas presented to the competition within the scope of the U.Porto.
- PITCH ME UP is training for a team of entrepreneurs to present the idea of business in the form of pitches, that is, a kind of qualification and training for pitches presentation.
- Start-Up is a Program where Business models are presented and validated with the market, facilitating in this way technology transfer and promoting the creation of new businesses.
- TECHNOLOGICAL INNOVATION AWARD (The Innovator of the Year Award**)** is mainly a tool for raising awareness about innovation through the acknowledgement of merit, in turn creating an example for the academic community to follow. In fact, the U.Porto has been focusing much effort in promoting invention disclosures by creating structures that encourage and support inventors/researchers, guaranteeing benefits to those who choose to communicate their inventions, such as valorisation and support during the whole commercialisation cycle resulting thereafter..

Block (G) concerns to CEDUP, an Entrepreneurship Club, created in 2007 by students willing to share knowledge and experiences and resources in the attempt to strengthen entrepreneurial actions in U.Porto. It has been responsible for the organization of several events including Innovation and Entrepreneurship Week and Promotion of "CEdUP Talks", sessions in which participants share their experiences. Its mission is to promote entrepreneurship in the U.Porto, bringing together initiatives, people and companies to create synergies and form a more valuable and efficient ecosystem. Its focus is to make the University of Porto as the main entrepreneurship ecosystem in Portugal and for that it promotes Startup Fest, iUP25k and Fluck up Nights.

Block (H) is UPTEC - Science and Technology Park of the University, a space for business development based on the skills of the U.Porto. This park is divided into four poles: Technological Pole, Creative Industries, Biotechnology Pole and Sea Pole. It fosters the creation and development of business projects in the arts, sciences and technologies, through sharing knowledge, between the university and the market. Since 2007 UPTEC already had supported 600 projects, 79 graduated companies that in 2019 directly employed 2800 high

qualified Human resources. UPTEC, in addition to offering its companies general services, also presents more advanced services aimed at consolidating Start-Ups, namely through:
- UPTEC Ace (Startup acceleration program)
- UPTEC Coach (Training and consulting to companies incubated at UPTEC)
- UPTEC Intern (Short term internship program for UP students in companies)
- UPTEC Proto (Support for new product development and rapid prototyping)
- UPTEC Inn (Partnerships and collaboration between investigation units of the U.Porto and the installed companies)
- UPTEC Buzz (Communication support service for installed companies)

3.3. Scale up Porto

With a novel and integrated vision of the scale up process, University, Local authorities, companies, citizens and other stakeholders, launched together as a first step of a coordinated program for enhancing innovation and competitiveness creating employment and improving citizens' quality of life: a strategy from Porto that commits the city towards the promotion innovation and entrepreneurship ecosystem. Together, all players are creating a sustainable entrepreneurial ecosystem where cities can work as scaleup catalysts through a program that can be reflected all across Europe.

A Scaleup Porto Manifesto has been created having as main principles Trust, City as a Central Hub, Acces to Talent, Training and knowledge share, Generating Data, Self Assessement and Benchmarking, Building Networks, City as a Lab Viving Hub and Funding. In fact in Porto's ecosystem, all the stakeholders are considered to have a unique role, contributing to innovation initiatives and policies on a relevant and peer basis. Government, regional and local authorities, entrepreneurs, educators, researchers, investors, industry and large corporations, can crate the conditions to support scale upa by working together.

Creating highly skilled and developing measures to empower job creation enhance the capacity to access to talent and fostering knowledge exchange and expert advice. Also, the implementation of a system to target, endorse, empower and report matters that concern Generating data bring more knowledge, more dynamic and more capacity to find talent.

Porto is a city of knowledge, with outstanding scientific and academic institutions and great levels of investment in research and development (R&D). In the Porto Metropolitan Area there are 72.935 higher education students (2017), distributed by the University of Porto, Polytechnic of Porto (the two public higher education institutions) and many other private universities. Portuguese scientists are developing cutting-edge research and regularly publish their findings in many of the world's most cited publications: the University of Porto alone accounts for 25% of the scientific publications produced in Portugal (2012-2016). There are 8 technology & knowledge transfer centers in Porto. The municipality government of Porto is a facilitator of innovation, turning the city into a living lab, capable of providing the right infrastructure and access to data and talent as well as funding for fast growing companies; the city is an engine of innovation, where citizens, companies, entrepreneurs and researchers work together to solve real problems.

Prominent startup supporting infrastructures (incubators, coworking spaces, etc.); In fact, there are dynamic startup communities with regular events, english is widely spoken, the National Health System ie free and the first-class private insurance affordable. Competitive talent from top-level universities, direct flight connections to all of Europe and free Wi-Fi connections available provided by the city is a reality. Only the last year, the network supported more than 1M users and 4G are available everywhere. 40% of Portuguese startups

are in Porto (around 300 startups), being 20 incubators, 30 co-working spaces and 65 R&D Centers (Metropolitan Area).

4. Analysis and Discussion

The main observed strengths at the University of Porto were the existence of a well-articulated entrepreneurial ecosystem, which includes UPIN, UPTEC, Porto Business School, the Entrepreneurship Club and research funding. Other important factors are related with the regulation on spin-offs, which aims to encourage the creation and support for innovative companies, granting them the seal of identify as linked to the U.Porto. The defined methodology to support entrepreneurs, aiming to systematize the creation process and providing a set of services for promoting the development of technology-based business projects is relevant. Business Ignition Program aims to train entrepreneurs in innovation management and business-oriented entrepreneurship. iUP25k - Business Ideas Competition from University of Porto, an instrument to raise awareness of entrepreneurship and creation of new companies based on knowledge exploration processes and innovation, which has awards in financial resources, international travel and participation in business events.

All these evidences point that he development of entrepreneurship in institutions depends on a set of connected actors and actions shared between these actors, so that conditions are created for the emergence of new ventures. The U.Porto ecosystem can be seen as an extensive set of components, internal and external to the university, and which have the potential to function as a infrastructure to support the creation of technologies and startups. The components (or actors) of the entrepreneurship ecosystem are people, companies, organizations and relevant processes for the transfer of knowledge and the creation of startups and which are object of integration and interaction efforts with the ecosystem that U.Porto develops through the mobilization of its resource and training base.

Creating highly skilled and developing measures to empower job creation enhance the capacity to access to talent and fostering knowledge exchange and expert advice. Also, the implementation of a system to target, endorse, empower and report matters that concern Generating data bring more knowledge, more dynamic and more capacity to find talent.

5. Final Reflexions and Conclusions

Research on entrepreneurship ecosystems at universities is mostly based on empirical studies and only few studies present a consolidated theory that explain the relationships between the various resources, capabilities and activities of entrepreneurship through ecosystems. This research pointed out that the role of University of Porto in relation to the increase, diffusion and intensification of activities related to entrepreneurship has a key component in the ecosystem and the knowledge transfer and new business practices. The main component of the final remarks is given by the fact that it is possible to consider in the analysis of the ecosystem a way that the plans and management models of innovation and knowledge transfer from universities must benefit from ecosystem-based visions and practices. The ecosystems of entrepreneurship are not just to indicate that there is a broader structure support for entrepreneurship actions, which goes beyond the internal limits of university. More than that, ecosystems can be used as references guidelines for the strategic management of entrepreneurship. The ecosystem is therefore, at the same time, a reference unit for the management and a source of value creation for the university and its nascent originated companies.

The search to identify and define entrepreneurial ecosystems has become a matter of great importance to identify how cities, regions and nations deal with the entrepreneurship.

However, looking at the university as an entrepreneurial ecosystem through its results are not yet generalizable but the case of the University of Porto offers insights into the types of agents, institutions, cultures and resources that an entrepreneurial ecosystem contains. In addition, it highlights governance, openness and decentralization of activities that has played a role in supporting student's founders and their high-growth endeavours. This study does not have the character of extrapolating the analysis of the environment of the U.Porto, therefore, it is suggested that further studies may analyze the external environment in which the university it is inserted, and in this way open a range for new approaches. As even if in this study a brief description of how Porto's city stakeholders strongly work with U.Porto, it would be interesting to go in deeper and find out more actions and present numbers (output in what concerns economic and social values)

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IMPLEMENTATION OF VIRTUAL TECHNOLOGY IN MUSEUMS AND ART GALLERIES

ABSTRACT

The virtual technology provides new possibilities refer to creating new products in services organizations. Virtual technologies also encourage visitors to be active and more immersed and improve the availability of services. The immersive virtual reality offers opportunities to explore and recreate the past and artifacts. The technologies vary in depending on the degree of immersion and the customers have different perceptions towards particular types of virtual technologies, so it should be considered when choosing appropriate technologies. The goal of the paper is to present the results of the primary research which has been carried out at University of Dubrovnik, Department of Economics and Business refers to the students' perception towards virtual technology (VR) application. According to the results of the primary research which has been carried out in 2020., including the sample of 150 students, it is visible that students have positive attitudes towards implementation of VR technologies in museums and art galleries business practice in Dubrovnik. According to the data obtained in this study the students consider that 3D technology is the most important, but they aslo consider that other types of VR such as 2D, 4D and 5D technology should not be disregarded. According to the results of the research it is visible that 80% of students find out that virtual tecnology has high level of importance in the area of entertainment, and 50% of them think that VR/AR has high level of importance in the area of education. The students have different opinions regarding the esthetics and escapism components and they give them less importance. The same elements influence on their satisfaction with the provided service. The research indicates that curators should pay more attention to generation Z preferences in creating museums and art galleries products/services based on VR technology. As a digital generation, students expects from policy makers to rise the level of virtual tecnology involment, providing more educational and entertainment elements in their offers.

Key words: *Virtual technology, museums, art galleries, Dubrovnik, students' perception.*

1. Introduction

The museums and art galleries exhibits are designed to immerse the visitors, evoke emotion and inspire new thoughts. The nature of Augmented Reality (AR) and Virtual Reality (VR) provide new way in the cultural product placement. The goal of the paper is to present the results of the primary research which has been carried out at University of Dubrovnik, Department of Economics and Business. The primary research has been carried out in 2020., including the sample of 150 students. For the purpose of this paper the main hypotheses has been stated:

H1. The students have positive attitudes towards virtual technology (VR) implementation in

museums and art galleries business practice. The implementation of VR could rise the level of students' interest towards museums and art galleries cultural products.

For exploring the students' attitudes the Pine & Gilomore Model has been used. The Brand Experience Model has been presented in 1999. by Pine and Gilmore.

Picture 1: Pine & Gilmore model elements

Source: http:// www.diagramo.com
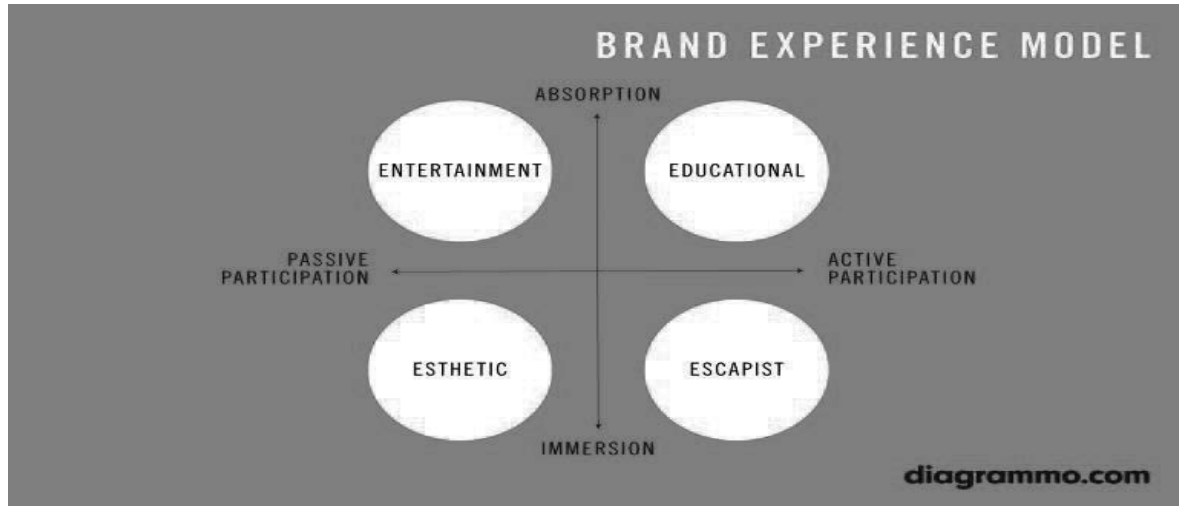
The matrix classifies experience into four domains ('4ES'). These domains are placed on a matrix divided by an active-passive involvement axis and absorption-immersion dimensions axis that together produce quadrants. The four domains are Entertainment, Educational, Esthetic, Escapist. Entertainment component refers to occupying a persons' attention agreeably. Educational component refers to the consumers' active participation through interactive engagement of one's mind or body. The consumer absorbs and increases skills and knowledge. Esthetic component refers to consumers' passive appreciation. The consumer is immersed in or surrounded by the environment. Escapist element refers to the consumer active participation in events or activities. He is immersed in an actual or virtual environment. The consumer is been active actor or participant in events or activities (Pine, Gilmore, 1999. p. 31-32**)**

2. Virtual reality- the specific features and the role in museums and art galleries

In recent years, Augmented Reality (AR), Virtual Reality (VR), and Mixed Reality (MxR) have become popular immersive reality technologies for cultural knowledge dissemination in Virtual Heritage (VH). Virtual reality (VR) is highly immersive and transports users to fully computer-generated word. From a VR perspective such characteristic enables the reimagination and reconstruction of lost cultures in a highly immersive virtual environment. Interaction in VR is always between users and virtual environments (cultural content). There is no direct interacton/relationship between users and the real word, because VR blocks users' view to physical environment. However, indirect relationship can be established via virtual environment simulations and representations of the physical world (or some elements from the physical world) in the virtual one (Bekela, Champion, 2019, p. 2-3). Definition provided by Merriam-Webster is: "Virtual reality is an artificial environment which is experienced through sensory stimuli (such as sights and sounds) provided by a computer and in which one's actions partially determine what happens in the environment" (http://www.merriamwebster.com). Augmented reality (AR) can be considered as an extension of VR, which mixes a vision from real world with virtual elements to create a real-time mixed reality. However there is not sharp

line delineating a frontier between AR and VR (Gutierrezet al., 2017., p. 473). Azuma (1997) defined AR as "a system that combines real and virtual content, provides a real-time interactive environment, and registers in 3D. So, unlike virtual reality, which creates a totally artificial environment, augmented reality uses the existing environment. The rise of AR and VR in museums has reached a significant crescendo. Museums are beginning to experiment with utilizing AR and VR to enhance the experience within the museums. VR and AR can widen public access to the museum's valuable assets by bringing these assets to life. A 3D tour can help in connecting visitors with the exhibit, assisting them to absorb the information, and reviving the display. In historical exhibitions, for instance, it can serve for communicating the reality of ancient times (http:// www. doublx.com).

Interacion between users and virtual content is a crucial element of any immersive visualization environment. The common types of interaction methods are: tangible, collaborative, device-based, sensor-based, multimodal and hybrid interaction methods. Tangible interfaces allow direct manipulation and interaction with virtual information through physical object. Collaborative interfaces often use a combination of complementary interaction methods, sensors and devices to enable and co-located and/or remote collaboration among users. Device-based interfaces use GUIs and conventional devices such as mouse, gamepad, joysick, and wand to enable interaction and manipulation of virtual content. Sensor-based interaction interfaces use sensing devices to perceive users' interaction inputs. The common types of sensors include motion trackers, gaze trackers, speech recognisers. Multimodal interfaces are fusion of two and more sensors, devices and interaction techniques that sense and understand humans' natural interaction modalities. Mulimodal interfaces are closely related to sensor-based devices. Hybrid devices integrate a range of complementary interaction interfaces to devise a method that combines different characteristics from the above categories (Bekele, Champion, 2019, p. 4).

So, one of the challenges for the companies which have been faced with AR/VR technology implementation is creating less complex and more affordable hardware, as a key factor for popularizing virtual technologies. Latest hardware developed by these companies is classified into three categories: smartphones mounted on headsets, dedicated head mounted displays and augmented reality glasses. Mobile devices like smartphones have actually processors powerful enough, to make them suitable for VR/AR visualization (Martinez-Gutierrez et al., 2017, p. 476.)

Presentation devices are the core of immersive reality. They are divided into visual, auditory and tactile presentations devices. There are five types of visual display technologies: Head-Mounted Display (HMD), Spatial Augmented Reality (SAR), Hand Held Devices (HHD), desktop screen and projection and Cave automatic Virtual Environment (CAVE). HMDs are highly immersive and commonly utilized across all immersive reality categories. Usually, HMDs made for AR and/or MxR are either video or optical see-through, whereas HMDs built for VR and/or AV experiences are blocked headsets since users' direct view to the physical environment is blocked. Spatial Augmented Reality (SAR) projects virtual information directly on the real environment through video-projectors. Two or more projectors are used for 3D effects. HHDs are portable displays such as smartphones and tablets. This group of displays have become a popular platform for mobile AR. These devices can also support VR if they are combined with additional VR kits such as Google Cardboard and RoboVR. Desktop screens and table-top projectors are common display systems for non-immersive VR and AR applications with a limited interactivity. These displays can provide 3D experiences with the addition of stereo glasses. bThe CAVE is a projection-based display technology that allows multiple co-located users to share fully immersive VR experiences. (Bekele, Champion, 2019, p.3)

Some commonly known as Pros & Cons VR technology usements arguments could be following (http://www. medium.com):

1. Pros

A) VR is being branded as an empathy machine. AR and VR both provide a greater ability to place things, events, and people within context—leading to a greater understanding. VR offers a more holistic form of storytelling.

B) VR/AR, can open up museum exhibits to people unable to attend the physical exhibit.

C) VR technologies promise more immersive museums/art galleries experience+

2. Cons

A) Museums are concerned that providing a VR experience will replace the need for a physical visits. This was a similar concern when museums were confronted with users expecting exhibits and objects to be available online. In a majority of cases online content has only served to increase interest and attendance to a physical museum.

B) The costs of AR and VR technology implementation are still high. However, there are examples of good practice, such as VIVE Arts (https://arts.vive.com/us/). It shows how museums can find a resourceful partner to explore VR museum projects.

C) The logistics of AR and VR can be daunting. Technology aside, the experience will also require space and controls set up to help museums/art galleries to keep visitors safe. The users can experience forms of nausea or anxiety, and there's also hygiene to consider when reusing equipment that is placed on people's heads.

One of the fist arts and cultural organisations that offered a VR experience was the British Museum. In 2015, it held the 'Virtual Reality Weekend', which is an event where visitors could use a Samsung Gear VR to explore a Bronze Age roundhouse and view 3D-scanned exhibit artefacts (www.grin.com). The Second Louvre Museum is an example of a traditional museum installation displaying both classic and modern works of art in a setting specifically designed to replicate a wing of the Louvre Museum in Paris. The exterior of the museum is exquisitely detailed, with colonnades, statues, fountains, and other features carefully designed and developed to evoke the grandiloquence one feels when standing in front of the Louvre in Real Life (RL).

It is undeniable that technology has a growing presence within the museum sphere and provides the opportunity for museums/art galleries to be more proactive. Virtual Reality is also motivating and has a positive influence in learning process (Mikropoulos et al. 1998). With recent advancements in visualization technologies it is possible to educate clients for using digital immersive environments that allow them to experience and experiment with a 3D/4D full-scale virtual model. Digital environment s provide an extremely rich learning atmosphere where clients gain a „sense of presence" within the virtual space. Clients learn from the virtual experiences that they have within the immersive environment. The virtual museum can also offers a number of opportunities for social interaction, including a large open-air auditorium for lectures and presentations, small conference areas, and plenty of places for groups to gather and discuss the museum's exhibits (Urban et al., 2007).

According to the Bekele & Champion (2019) specific integration of collaborative and multimodal interaction methods into a Mixed Reality (MxR) scenario that can be applied to VH applications that aim at enhancing cultural learning. The different categories of immersive reality (AR, VR, MxR) and their enabling technologies have to be taken into the account. The different immersive reality categories have potential to establish a contextual relationship between users, reality and virtuality and enable collaboration and engagement in virtual environment. Different interaction methods such as tangible, collaborative, multimodal, sensor-based, device-based and hybrid inerfaces provide different approaches from experiential and technological requirements perspective. For instance, they have proposed a specific combination of MxR and a hybrid interaction method comprising collaborative and multimodal

features in order to enhance cultural learning at heritage sites and museums (Bekele, Champion, 2019, 12).

Discover Babylon is a research and development project involving UCLA's Cuneiform Digital Library Initiative (CDLI), the Federation of American Scientists (FAS) and the Walters Art Museum (WAM). It focuses on how new information technologies (and game technology in particular) can enable key recommendations of modern learning science and bring new life, meaning, and excitement to museum and library collections. Synthetic learning environments allow visitors to see the objects used in context, manipulate them, and ask questions about them from characters in the game. Games offer an exploratory environment in which learners can engage in experiential, active, problem-based learning, receive immediate feedback, and create their own pathways to knowledge. Collections can be virtually reassembled to create a richer appreciation of a single artifact or a deeper understanding of a whole culture. The project emphasizes technology-enhanced learning experiences that encourage intergenerational dialogues by groups of museum audiences and that reach non-traditional museum visitors. It does this with a process that carefully integrates development and evaluation of new learning system. The project is creating an immersive learning game that is designed to teach players about the cultural legacy of ancient Mesopotamia. In producing the game project also creates: synthetic environments that can be decoupled from the game challenges, scans of museum objects and tablets, historically attested character models (avatars), learning challenges suitable for use in a classroom, a script, a question and answer database, photographs of objects taken by the project staff, cinematic clips that appear within the game, and two versions of the game (Lucey-Roper, 2006).

Virtual reality technologies are also used to help in teaching complicated skills and digitally preserving intangible heritage. The Department of Management Information Systems, Central Taiwan University of Science and Technology of Taichung, has realized an interesting the project. The main goal was „to preserve ancestor's wisdom in addition to artefacts". After the passive introduction, the 3D environment becomes more interactive and users are allowed to select some hotspots triggering various events, like visualization of documents and activation of other interactive sections. The users are free to explore the virtual environment and choose the contnt they want to deepen. This allows users to customize their own experience and examine for instance only the technical material (Carrozzino et al., 2011).

The National Museum of Singapore is currently running an immersive installation called Story of the Forest. The exhibition focuses on 69 images from the William Farquhar Collection of Natural History Drawings. These have been turned into three-dimensional animations that visitors can interact with. Visitors download an app and can then use the camera on their phone or tablet to explore the paintings. The installation provide a learning experience. The visitors can hunt for and 'catch' items. They can add them to their own virtual collection as they can walk around the museum. Users can learn facts such as how rare the species are (www.museumnext.com). The use of virtual technology has become a solution to improve the communication between cultural services providers and visitors.

3. The results of the empirical research which has been carried out in Dubrovnik

3.1. Methodology of the research

The empirical reseach has been carried out in 2020., including the sample of 150 students. Besides the Croatian who are studying at University of Dubrovnik the Erasmus + Mobility Program students have also been included in the research. For exploring the students' perception of an virtual technologies use in museums and art galleries the Likert scale and Pine & Gilmore model have been used. Using the method of semi-structured interview the students'

perception towards virtual technology (VR) application in Dubrovnik museums and art galleries business practice has been explored. The descriptive statistic has been used for analysing the dana.

3.2. Results of the research

In the next text the results of the empirical research refer to students perception towards virtual technology have been provided.

Table 1: The importance of the virtual technology

Virtual technology / Organisations	Very important	Important	Neither important nor unimportant	Has small importance	It is not important
Museums	10%	60%	30%	-	-
Art galleries	10%	30%	60%	-	-

Source: authors

According to the result of the research carried out at University of Dubrovnik, it is visible that the largest number of respondents (70%) consider that virtual technology is important and very important and 30% think it is neither important, nor unimportant. The situation is different in case of the art galleries. The most of students (60%)consider that the virtual tecnology is neither important, nor unimportant for art galleries business practice and 40% of them think that it is important and very important.

Table 2: Students' interest in virtual technology in culture

Interest / Technology	High	Middle	Little	Do not have at all
Without VR	-	62%	38%	-
With VR	35%	55%	10%	

Source: authors

According to the data obtained in this study for the majority of respondents (80%) consider that 3D technology is important and very important, 75% think that 2D is important and very important, 70% find out that 4D is important and very important and 50% of them think that 5D is important and very important. The significant number of respondents, 20% in each category consider VR technologies neither important, nor unimportant, 5% think that 2D has small importanace, 10% consider that 4D has small importance and 15% of students think that 5D technology has small importance in museums/art galleries business practice. The share of 15% of students aslo find out that 5D tecnology is not important at all.

Table 3: Importance of each type of the virtual technology

Importance / Type of technology	Very important	Important	Neither important nor unimportant	Has small importance	It is not important
2D	20%	55%	20%	5%	-
3D	20%	60%	20%	-	-
4D	25%	45%	20%	10%	-
5D	25%	25%	20%	15%	15%

Source: authors

Table 4: The importance of VR technology usement according to the Pine & Gilmore model- 4E

Importance / Elements	High	Middle	Small	Not important
Entertainment	83%	17%	-	-
Education	50%	25%	25%	-
Esthetics	42%	48%	10%	-
Escapism	45%	30%	25%	-

Source: authors

According to the results of the primary research 83% of students find out that virtual tecnology has high importance in the area of entertainment, while 17% think that it has middle level of importance. The share of 50% consider that virtual technology has high importance in the area of education, 25% think it has middle importance and 25% consider it has small importance. The students have aslo different opinions refer to the esthetics, so 48% think that VR technology has middle level of importance, 42% think hat it has high level of importance and 10% consider that VR technology has small importance in the area of esthetics.

Table 5: The influence of VR technology on students' satisfaction

Influence / Element	High	Middle	Low	There is no influence
Entertainment	85%	15%	-	-
Education	85%	15%	-	-
Esthetics	32%	58%	10%	-
Escapism	42%	58%		-

Source: authors

According to the data via table 5. it is evident that 85 % of respondents consider that VR technology has high level of influence on students' satisfaction with educational and entertainment component. The share of 15% consider that VR technologies development in the area of entertainment and education has middle level of influence on their satisfaction with visits. The students have different opinions towards VR technology influence on their satisfaction with the museums/art galleries products in the area of esthetics and escapism. The sahre of 58% of them think that VR technology has middle influence, 32% consider that VR has high influence and 10% of them think that VR has small influence in the area of esthetisc. Very similar situation is with the escapism, so 58% of them consider that VR tecnologies have middle level of influence and 42% think that the VR technology has high level of influence on their satisfaction with museums and art galleries products.

 The students have stated   the main advantages and disadvantages of VR technology implementation in museums/art galleries business practice. Acording to the students' opinions the main advantages of VR technology implementation are: the education refers to artifacts is very interesting, there is a possibility to „alive" the past time, the interaction is better, the exhibits cana be seen without physical visits, it encourages the young people to visit museums/art galleries. The students have stated some disadvantages and the main of them according to the students' opinion are: costs, the lack of informatic knowledge, access to VR, adaptation of musemus/art galleries to AR/VR reality.

4. Conclusion

Museums and art galleries have always been quite traditional, however, there is a need and challenge for making there buisnes practice more proactive. Works that lie in the darkness of

archives and storage rooms because of lack of available display space can finally see the digital light of day. Curators should not be limited by space, distance, transportation cost, mobility or robustness of the pieces (www.doublx.com). Displaying unique types of collections may be physically impossible to display in real life (Urban et al. 2007). The virtual tehnology (VR) could help the museums/art galleries in creating and implementing user-centered digital programs and improving visitors satisfaction. It offers immersion and connection, and can stongly affect people's emotions (Stuart, 2019, 1). It provides extraordinary possibilities to facilitate and enrich the experiences of visitors. The immersive virtual reality offers opportunities to explore and recreate the past and artifacts. Both AR and VR have their benefits and offer different types of engagement experiences. VR's strength is embodiment and immersion. So visitors are able to be inside the time or place and understand different viewpoints such as to be engage in interactions rather than just observe in a traditional setting. AR is slightly different in that it can overlay information, people and objects on the physical space. Utilizing AR in museums means that digital experiences can become context-aware based. So, it's important for a museums/art galleries curators to understand these technologies such as to cooperate with VR technology experts in order to esure the appropriate implementation and overcome possible barriers in the process of identifying and adopting new solutions.

According to the results of the research wich has been carried out in Dubrovnik it is visible than students are very interested in VR technology implementation. According to the data obtained in this study the students mostly consider 3D technology as the most important, but they aslo consider that other types of VR such as 2D, 4D and 5D technologies should not be disregarded. The results of the research show than 80% of students find out that virtual technology has high level of importance in the area of entertainment, and 50% think that VR and AR technologies have high level of importance in the area of education. The students have different opinions regarding the esthetics and escapism components and they give them less importance. The same elements influence on their satisfaction with the provided service. Many museums/art galleris aiming to achieve higher overall satisfaction do not distinguish the different aspects of visitors' experience and believe that every aspect is equally important. So, the curators should take into the account that museums/art galleries cultural offer for sudents and other young peope should be based in the first order on edutainment elements, because the students have given high level of importance to both components. According to the results oft he research students prefer to be immersed in cultural offer and to be active.

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MAPPING LITERATURE REVIEW ON THE ROLE OF CONSCIOUSNESS IN ENTREPRENEURSHIP COMPETENCE DEVELOPMENT

ABSTRACT

One of the key policy objectives for the European Union is the development of the entrepreneurial capacity of European citizens and organisations. The Entrepreneurship Competences Framework (EntreComp) set in 2016, emphasizes entrepreneurship as a transversal competence, which applies to all spheres of life. Although the framework aims to foster entrepreneurial learning it does not lay down specific methods of entrepreneurship competencies development and remains an open invitation to be used in formal and non-formal education. Accordingly, in different fields of science, there is increasing interest in research on human consciousness as a personal transformation element. However, research has been fragmented and remained closed within boundaries of the certain scientific area. In order to enable further development of the research area, the purpose of this study is to provide a literature review on the extant literature related to the development of the entrepreneurship competences. In particular, the study explores the previous research related to consciousness and entrepreneurship competences development. The main goal of the study is to examine patterns and main concepts in consciousness development in relation to entrepreneurship competences or education. The study uses the mapping review methodology. The sample consists of the representative number of scientific articles related to entrepreneurship and consciousness development in the multiple related and relevant domains such as neuroscience, cognitive, social, information and natural sciences and psychology. Screened articles were classified for identification of types of research, conceptual frameworks and referent disciplines. The study indicates the prevalence of theoretical, mono-disciplinary research, and the lack of empirical evidence. In addition, the study outlines the state of the academic research territory and provide a base for further conceptual and empirical research.

Keywords: *consciousness, entrepreneurship competencies, entrepreneurship education.*

1. Introduction

Entrepreneurship has been intensively studied in the past century and it gained significant recognition for its economic, social, environmental and political impact. Recently, entrepreneurship has been praised for its influence on a personal level as the way of thinking. Over the years, scientific research has been changing the focus and has illuminated the phenomena of entrepreneurship from various perspectives in order to come to a better understanding and to offer insights on specific entrepreneurship competences for implementation at a broader extent. It was, and still remains, a challenge to conceptualise and articulate entrepreneurship as a way of thinking and as a multidisciplinary approach to the process of creating economic and social value (Klein, 2006). In the past two decades, all the efforts put into entrepreneurship research seem to have come to fruition within the policy of

the European Union at least. European Union proposed 8 key competences for lifelong learning, one of which was a sense of initiative and entrepreneurship (EU, 2006). Furthermore, the EU declared that the aim of entrepreneurship education and training should be to develop entrepreneurial capacities and mindsets of people that benefit economies by fostering creativity, innovation and self-employment (European Commission, 2008). It became evident that entrepreneurial effectiveness and personal transformation represent critical elements of training programmes for entrepreneurs (Cooney, 2012)**.** Finally, in 2016 the Entrepreneurship Competences Framework (EntreComp) was announced allowing a new paradigm to emerge (Bacigalupo, et al 2016.). The EntreComp framework is the result of joint work of a heterogeneous group of experts with the common goal to help citizens to develop their ability to actively participate in society, to manage their own lives and careers and to start value-creating initiatives. Entrepreneurship is defined within EntreComp as the action upon opportunities and ideas and their transformation into value for others. Created value can be financial, cultural, or social (FFE-YE, 2012). Entrepreneurship has been declared for the first time as a transversal key competence, which applies to all spheres of life. The foundation of entrepreneurship as a transversal competence resides in personal development as a precondition for active participation in society through self-employment, job creation, and the job market entering or starting up ventures. The EntreComp conceptual model (Figure 1.) is based on the 3 competence areas, 15 competencies, 8-level progression model and a comprehensive list of 442 learning outcomes. Structured in such a way EntreComp bridges across the world of education and work.

Figure 1: The EntreComp conceptual model
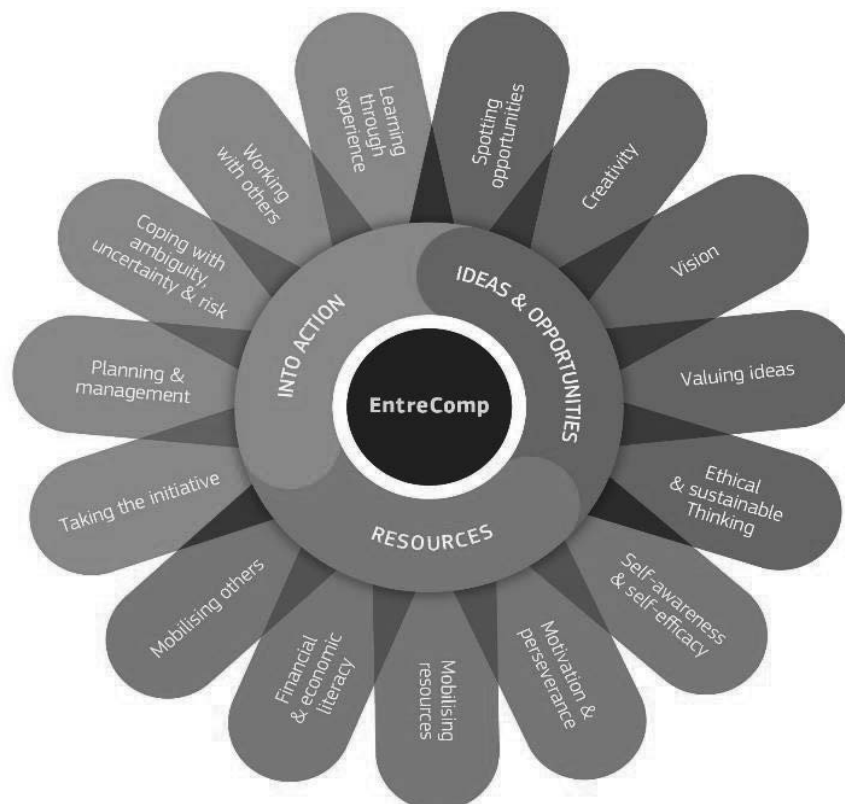
Source: Bacigalupo, M., Kampylis, P., Punie, Y., Van den Brande, G. (2016.). EntreComp: The Entrepreneurship Competence Framework. Luxembourg: European Union, 2016.

In the course of this study, entrepreneurship competence is understood as a set of knowledge, skills and values that need to be acquired to foster entrepreneurial activities. Education, in general, is the process of acquisition of knowledge, skills and attitudes. In this study, the term

human consciousness is defined as the fundamental structure of a human being which ensures continuous sustainable development. Although the proposed framework aims to foster personal transformation via education and learning, it does not lay down specific methods of entrepreneurship competences development and remains an open invitation to be used in formal and non-formal education. New paradigms require new ways of education and educators able to meet contemporary challenges. Many scientific quests have been pursued on entrepreneurship education in order to find out and propose the learning methods with the most beneficial outcomes. In different fields of science, great interest is shown for research on human consciousness as a personal transformation element. So far, entrepreneurship education has not incorporated widely the consciousness concept, or explicitly consciousness development methods in the education program. One of the reasons why the concept of consciousness development is not more included and recognised by the world of entrepreneurship lies in the fact that despite many attempts, the concept of consciousness has remained insufficiently defined due to its non-physical, immaterial nature. However, new knowledge in both consciousness and education research area gives new meaning to entrepreneurship competences and argues positively in favour of the possibility to incorporate consciousness development methods into education for the development of entrepreneurship competences (Kuratko, 2005), (Béchard and Grégoire, 2007), (Sarasvathy and Venkataraman, 2011). Therefore, this study explores the relevant literature on human consciousness and relates it to existing studies on entrepreneurship competence and education with the attempt to address the question of the existence of a relationship between consciousness and entrepreneurship competences development. The main goals of the study are as follows. Firstly, to identify relevant literature in the area of human consciousness. Secondly, to detect a representative number of scientific articles related to entrepreneurship competences and consciousness development and possibly uncover the patterns and main concepts in consciousness development in relation to entrepreneurship competences or education. Thirdly, to identify existing research gaps in entrepreneurship competence and entrepreneurship education territory. Following the introduction which explains the main concepts, this study continues with an examination of the research methodology, presentation of results and ends with the conclusion and suggestions for future research.

2. Methodology - Qualitative approach

Consciousness development is a relatively new area of research examined from the multitude of scientific domains, using different conceptual frameworks and methodology. Given the relative recency of the area, importance of the research, and widening of the scope of the consciousness research, the study presents the preliminary research and deploys qualitative approach to outline the main research areas and issues.

There is a considerable amount of literature on human consciousness. For early screening and identification of relevant literature for this study, data was collected from the Web of Science database known for its ubiquity in providing access to multidisciplinary and regional citation indexes, specialist subject indexes, a patent family index and an index to scientific data sets. The Web of Science platform covers 34,385 journals, data sets of 59 million records (journals, books, and proceedings) 40.3 million patent families (> 82 million patents) 7.7 million data sets providing deep coverage in natural sciences, social sciences, and humanities (Web of Science Group, 2020). Ancillary search procedure has been used in the form of contacting the leading researcher on consciousness development methods to access the primary studies not listed on the Web of Science, The study is conducted based on the Template for a Mapping Study Protocol (EBSE-RG, 2009).

Systematic Mapping is intended to provide an overview of a research area, to take notice of the temporal trends, to identify relevant authors, the amount, the type of research and results available. For the purpose of this research following mapping questions have been set:

MQ1:   How many studies were published over the years on human consciousness?
MQ2:   In what areas of science have the studies been conducted?
MQ3:   What is a temporal trend in the number of studies?
MQ4:   What are the types of research, language, authors, institutions, and publishing journals?
MQ5:   Are the studies intersected and interrelated with studies on entrepreneurship competences and entrepreneurship education and how?

Published studies have been selected as per the following inclusion criteria: papers focusing on human consciousness, consciousness development, entrepreneurship competences and entrepreneurship education published up to January 2020. Grey literature, such as produced outside of traditional academic publishing channels, has been excluded, because of the non-transparency of their review process. Also, studies which are not connected to human consciousness have been excluded as well as those where consciousness development was used as a synonym for raising awareness or sensibility for something. The steps described in Figure 2 have been followed for the process of identification, extraction and selection of relevant literature.

Figure 2: The Search Protocol

Identification
- By Web of Science platform
- By keyword consciousness
- By titles, abstracts, author and keywords examination
- By the year, language and research area

Refinement
- By title and research domain
- By author, publishing journal, institution and relevance
- By additional keywords entrepreneurship competence and entrepreneurship education

Eligibility
- Full text studies assessed for eligibilty (584)
- Verification
- Eligible (584)

Source: Author

All database searches per topic on the keyword consciousness* were conducted in the first phase (MQ1). The asterisk symbol (*) at the end of the keywords is search criteria set by the search engine which broadens a search by finding words that start with the same letters. The search engine examined titles, abstracts, author and keywords. The collected records have been sorted by year, language and research area (MQ2, MQ3). In the second phase, the database was examined by title and research domain and afterwards by author, publishing journal, institution and relevance (MQ4). The keyword consciousness* was further combined with additional keywords entrepreneurship competence* and entrepreneurship education (MQ5).

3. Results

Initial search for relevant literature has been conducted according to the keywords: "consciousness*", "entrepreneurship competence*" and "entrepreneurship education" and it resulted in a total of 128523 records on consciousness, 1414 on entrepreneurship competences and 8875 on entrepreneurship education. The resulting records were derived from the search of all types of publications: articles, proceedings paper, reviews, books, book reviews, and chapters. The publications cover the period from the earliest record available in 1800 until 2020.

3.1. Development of Consciousness Studies

At the first level search for consciousness-related records of publications containing the word consciousness on all databases under the Web of Science platform, it was found that the first records have been made in 1800. It is known that the first documented pieces of evidence of reflection upon consciousness by Aristotle are dated 350 BC. The Web of Science records covers the timeline from 1800 until 2020. A significant number of records of publications started to grow as of the 1950s and reached a peak of 8927 records in the year 2017 solely (Figure 3).

Figure 3: Consciousness Publication Records per Year
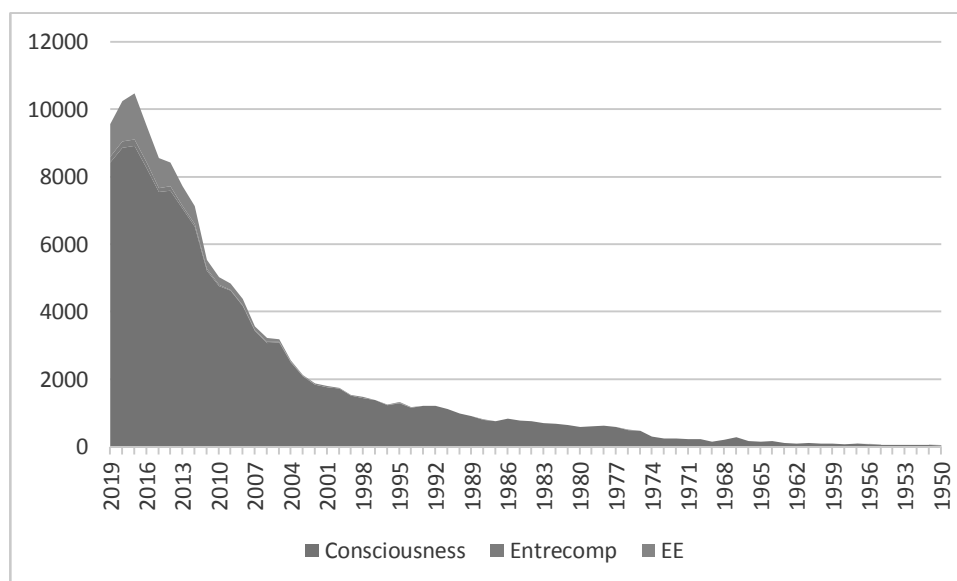
Source: Author

The records of consciousness studies show continuous growth. Cumulated from 1946 until 1980, covering four decades, there were 6403 records in total. Afterwards, only in one decade, during the1980s, the number of records reached 7489. The significant increase in records on consciousness studies has been noticed especially as of the 1990s. In the decade of 2010s, it has grown almost ten times compared to the 1980s as shown in Table 1. The distribution per type of publications is as follows: articles 107514 (83.65%), reviews 13803 (10.74%), and smaller fractions of other and unspecified types of publications.

Table 1: Growth in Consciousness Records

Decade	Number of Records	Growth Index
1980s	7489	100
1990s	12571	168
2000s	28358	379
2010s	73221	978

Source: Author

Sorted by language, the most of publications related to consciousness were in English 87013 (67.70%) followed by Korean 18328 (14.26%), Russian 6774 (5.27%), German 3252 (2.53%), Spanish 3114 (2.42%), Japanese 2886 (2.25%), French 2472 (1.92%), Portuguese 1253 (0.97%), Chinese 1170 (0.91%), Italian 793 (0.62%) and smaller fractions of other languages.

Predominant scientific areas in consciousness research are Neurosciences Neurology 37190 (28.93%), Psychology 32119 (24.99), Behavioural Sciences 30226 (23.52%), Philosophy 10132 (7.88%), Social Sciences Other Topics 8910 (6.93%), Science Technology Other Topics 7111 (5.53%), Sociology 6657 (5.18%), Biochemistry Molecular Biology 6637 (5.16%), Education Educational Research 6414 (4.99%) and smaller portions of other areas. Business and Economics research area is represented in 4436 (3.45%) publications (Figure 4).

Figure 4: Consciousness Publication Records per Research Area
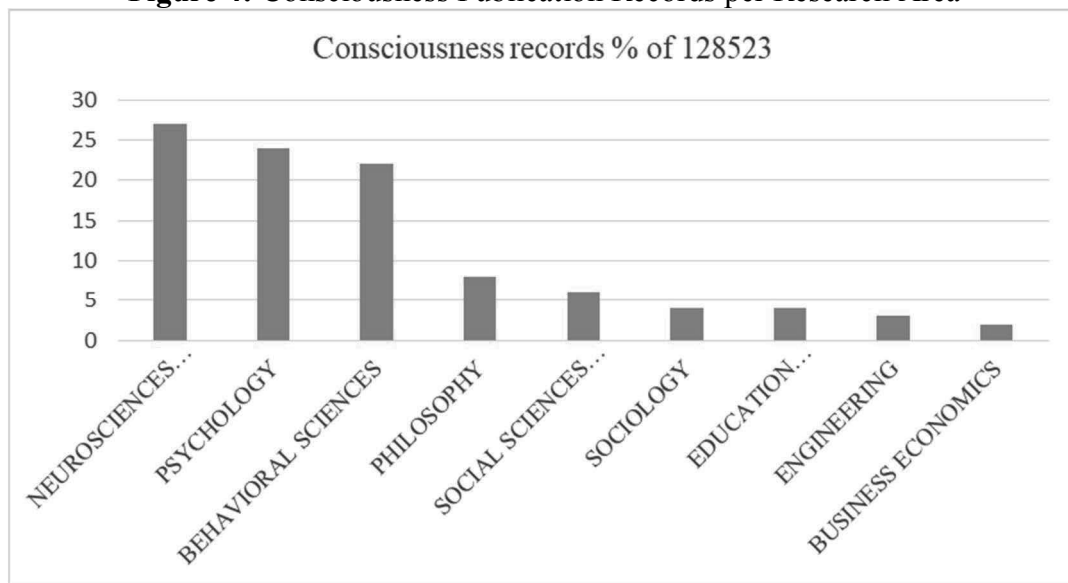
Source: Author

3.2. Consciousness in Social Studies

Since a large number of studies were extracted by the search, the idea was to combine the results of the search for predominant scientific areas of consciousness, entrepreneurship competence and entrepreneurship education to determine an optimal common research area. The data has been examined by the keywords "consciousness*", "entrepreneurship competence*" and "entrepreneurship education". The result has been analysed according to the research area. It can be concluded that studies on consciousness are predominantly related to the research area of neuroscience, none of them is related to entrepreneurship competence and

entrepreneurship education and vice versa. Only in sociology and social sciences are they relatively equally represented as shown in Figure 5. Therefore more focus has been given to studies in social sciences for possible detection of interdisciplinary studies apart from neurosciences.

Figure 5: Relative Representation of the Records by Keywords in Research Areas
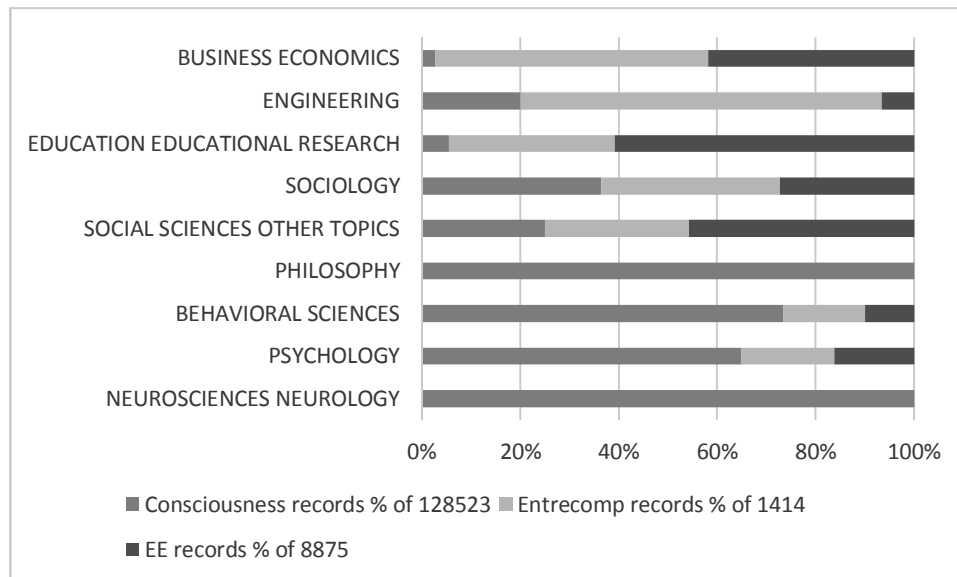
Source: Author

The search query based on the keyword "consciousness*" in titles of articles in social sciences resulted in 35948 records which are distributed in research fields predominantly in Psychology 5814 (16,17%), Behavioural Sciences 4738 (13,18%), Neurosciences Neurology 3238 (9,01%), Social Sciences Other Topics 1540 (4,28%), Sociology 1342 (3,73%), Education, Educational Research 975 (2,71%), Philosophy 772 (2,15%) and smaller fractions in other fields. Out of the total number of records altogether 14546 are published under Social Science domain, out of which 10393 are articles. The articles have been published in 4220 journals. The abbreviated list of relevant journals, with 25 and more records, is given in Table 2. covering only 2428 (23,36%) articles of selected domain. This result indicates great fragmentation and a wide dispersion of existing knowledge.

Table 2: The Top Journals Containing Consciousness Studies

Rank	Source Titles	Records	% of 2428
1	Journal Of Consciousness Studies	288	11,86%
2	Consciousness And Cognition	244	10,05%
3	Frontiers In Psychology	140	5,77%
4	Behavioral And Brain Sciences	137	5,64%
5	Sotsiologicheskie Issledovaniya	80	3,29%
6	Journal Of Mind And Behavior	73	3,01%
7	Progress In Brain Research	72	2,97%
8	Annals Of The New York Academy Of Sciences	67	2,76%
9	Voprosy Psikholingvistiki	54	2,22%
10	Philosophical Psychology	51	2,10%
11	Psychological Reports	50	2,06%
12	Tomsk State University Journal	49	2,02%
13	Psikhologicheskii Zhurnal	47	1,94%
14	Frontiers In Human Neuroscience	42	1,73%
15	The Behavioral And Brain Sciences	41	1,69%

Rank	Source Titles	Records	% of 2428
16	Boundaries Of Consciousness Neurobiology And Neuropathology	40	1,65%
17	Filosoficky Casopis	40	1,65%
18	Trends In Cognitive Sciences	38	1,57%
19	Izvestiya Rossiiskogo Gosudarstvennogo Pedagogicheskogo Universiteta Im A I Gertsena	37	1,52%
20	Brain Injury	36	1,48%
21	Journal Of Personality And Social Psychology	35	1,44%
22	Personality And Individual Differences	34	1,40%
23	Philosophical Transactions Of The Royal Society Of London B Biological Sciences	34	1,40%
24	Neurology	32	1,32%
25	Perceptual And Motor Skills	32	1,32%
26	Explore The Journal Of Science And Healing	31	1,28%
27	Anesthesiology	30	1,24%
28	Explore New York N Y	30	1,24%
29	Plos One	30	1,24%
30	Routledge Handbooks In Philosophy	30	1,24%
31	Science And Education	30	1,24%
32	Voprosy Psikhologii	30	1,24%
33	Medical Hypotheses	29	1,19%
34	Brain A Journal Of Neurology	28	1,15%
35	Routledge Handbook Of Consciousness	28	1,15%
36	Vestnik Novosibirskogo Gosudarstvennogo Universiteta Seriya Lingvistika I Mezhkul Turnaya Kommunikatsiya	28	1,15%
37	Brain	27	1,11%
38	Neuropsychologia	27	1,11%
39	Physics Of Life Reviews	27	1,11%
40	Zhurnal Vysshei Nervnoi Deiatelnosti Imeni I P Pavlova	27	1,11%
41	Journal Of Psycholinguistics	26	1,07%
42	Proceedings Of The National Academy Of Sciences Of The United States Of America	26	1,07%
43	Zygon	26	1,07%
44	Anesthesiology Hagerstown	25	1,03%
45	Clinical Neurophysiology	25	1,03%
46	Clinical Neurophysiology Official Journal Of The International Federation Of Clinical Neurophysiology	25	1,03%
47	Zhurnal Vysshei Nervnoi Deyatelnosti Imeni I P Pavlova	25	1,03%
48	Journal Of Altered States Of Consciousness	25	1,03%

Source: Web of Science

In the next phase of the quest, the data has been searched by keywords "consciousness*", "entrepreneurship competence*" and "entrepreneurship education", refined by the type of publication (article), and resulted with only 1 record, suggesting that this area is unexplored since there is no evidence of synthesised research. The result also leads to a conclusion of the evident lack of synthesis in this specific research field.

3.3. The Most Relevant Consciousness Articles

The most relevant articles were selected through the process of verification of eligibility of 584 of the most cited articles recorded in the previous stage of consciousness search. The articles were further sorted per type of research. The abbreviated list of the first 25 examined articles ranked by citation count is available in Table 3.

Table 3: List of the Most Cited Authors and Articles

Rank	Most Cited Authors	Cited
1.	Assessment Of Coma And Impaired Consciousness - Practical Scale	8,009
	By: Teasdale, G; Jennett, B	
	Lancet Volume: 2 Issue: 7872 Pages: 81-84 Published: 1974	
2.	Memory And Consciousness	2436
	By: Tulving, E	
	Canadian Psychology-Psychologie Canadienne Volume: 26 Issue: 1 Pages: 1-12 Published: 1985	
3.	Public And Private Self-Consciousness - Assessment And Theory	2242
	By: Fenigstein, A; Scheier, Mf; Buss, AH	
	Journal Of Consulting And Clinical Psychology Volume: 43 Issue: 4 Pages: 522-527 Published: 1975	2242
4.	The Role Of Stereotyping In System-Justification And The Production Of False Consciousness	1348
	By: Jost, Jt; Banaji, Mr	
	British Journal Of Social Psychology Volume: 33 Pages: 1-27 Part: 1 Published: Mar 1994	
5.	A Sensorimotor Account Of Vision And Visual Consciousness	1270
	By: O'regan, Jk; Noe, A	
	Behavioral And Brain Sciences Volume: 24 Issue: 5 Pages: 939-+ Published: Oct 2001	
6.	Towards A Cognitive Neuroscience Of Consciousness: Basic Evidence And A Workspace Framework	1117
	By: Dehaene, S; Naccache, L	
	Cognition Volume: 79 Issue: 1-2 Pages: 1-37 Published: Apr 2001	
7.	Toward A Theory Of Episodic Memory: The Frontal Lobes And Autonoetic Consciousness	1011
	By: Wheeler, Ma; Stuss, Dt; Tulving, E	
	Psychological Bulletin Volume: 121 Issue: 3 Pages: 331-354 Published: May 1997	
8.	On A Confusion About A Function Of Consciousness	965
	By: Block, N	
	Behavioral And Brain Sciences Volume: 18 Issue: 2 Pages: 227-247 Published: Jun 1995	
9.	Neuroscience - Consciousness And Complexity	792
	By: Tononi, G; Edelman, Gm	
	Science Volume: 282 Issue: 5395 Pages: 1846-1851 Published: Dec 4 1998	
10.	Private Self-Consciousness And The Five-Factor Model Of Personality: Distinguishing Rumination From Reflection	729
	By: Trapnell, Pd; Campbell, Jd	
	Journal Of Personality And Social Psychology Volume: 76 Issue: 2 Pages: 284-304 Published: Feb 1999	
11.	The Objectified Body Consciousness Scale - Development And Validation	697
	By: Mckinley, NM; Hyde, JS	
	Psychology Of Women Quarterly Volume: 20 Issue: 2 Pages: 181-215 Published: Jun 1996	
12.	Choking Under Pressure - Self-Consciousness And Paradoxical Effects Of Incentives On Skillful Performance	696
	By: Baumeister, Rf	

Rank	Most Cited Authors	Cited
	Journal Of Personality And Social Psychology Volume: 46 Issue: 3 Pages: 610-620 Published: 1984	
13.	A Framework For Consciousness By: Crick, F; Koch, C Nature Neuroscience Volume: 6 Issue: 2 Pages: 119-126 Published: Feb 2003	696
14.	Willful Modulation Of Brain Activity In Disorders Of Consciousness By: Monti, Martin M.; Vanhaudenhuyse, Audrey; Coleman, Martin R.; Et Al. New England Journal Of Medicine Volume: 362 Issue: 7 Pages: 579-589 Published: Feb 18 2010	662
15.	Consciousness And Anesthesia By: Alkire, Michael T.; Hudetz, Anthony G.; Tononi, Giulio Science Volume: 322 Issue: 5903 Pages: 876-880 Published: Nov 7 2008	596
16.	An Information Integration Theory Of Consciousness. By: Tononi, Giulio BMC Neuroscience Volume: 5 Pages: 42 Published: 2004 Nov 02	595
17.	Stigma Consciousness: The Psychological Legacy Of Social Stereotypes By: Pinel, Ec Journal Of Personality And Social Psychology Volume: 76 Issue: 1 Pages: 114-128 Published: Jan 1999	588
18.	Schizophrenia, Consciousness, And The Self By: Sass, La; Parnas, J Schizophrenia Bulletin Volume: 29 Issue: 3 Pages: 427-444 Published: 2003	581
19.	Acetylcholine In Mind: A Neurotransmitter Correlate Of Consciousness? By: Perry, E; Walker, M; Grace, J; Et Al. Trends In Neurosciences Volume: 22 Issue: 6 Pages: 273-280 Published: Jun 1999	550
20.	Competition For Consciousness Among Visual Events: The Psychophysics Of Reentrant Visual Processes By: Di Lollo, V; Enns, Jt; Rensink, Ra Journal Of Experimental Psychology-General Volume: 129 Issue: 4 Pages: 481-507 Published: Dec 2000	526
21.	Pharyngeal Aspiration In Normal Adults And Patients With Depressed Consciousness By: Huxley, Ej; Viroslav, J; Gray, Wr; Et Al. American Journal Of Medicine Volume: 64 Issue: 4 Pages: 564-568 Published: 1978	521
22.	Attention, Self-Regulation And Consciousness By: Posner, Mi; Rothbart, Mk Conference: Annual Meeting Of The Association-For-Research-In-Nervous-And-Mental-Disease On The Conscious Brain - Normal And Abnormal Location: New York, NY Date: DEC 05-06, 1997 Philosophical Transactions Of The Royal Society B-Biological Sciences Volume: 353 Issue: 1377 Pages: 1915-1927 Published: Nov 29 1998	515
23.	Video Ergo Sum: Manipulating Bodily Self-Consciousness By: Lenggenhager, Bigna; Tadi, Tej; Metzinger, Thomas; Et Al. Science Volume: 317 Issue: 5841 Pages: 1096-1099 Published: Aug 24 2007	507
24.	From Presence To Consciousness Through Virtual Reality By: Sanchez-Vives, Mv; Slater, M Nature Reviews Neuroscience Volume: 6 Issue: 4 Pages: 332-339 Published: Apr 2005	506

Rank	Most Cited Authors	Cited
25.	Role Of Consciousness And Accessibility Of Death-Related Thoughts In Mortality Salience Effects	497
	By: Greenberg, J; Pyszczynski, T; Solomon, S; Et Al.	
	Journal Of Personality And Social Psychology Volume: 67 Issue: 4 Pages: 627-637 Published: Oct 1994	

Source: Web of Science

As per research area, 44% of listed articles are dedicated to Psychology, 32% to Neuroscience, 12% to Behavioural Science, 8% to Psychiatry and 4% to Cognitive. Graphical presentation of the summarised result is represented in Figure 6. Of the total number of verified studies, 57% (333) refer to theoretical studies, 12% (71) to conceptual, 15% (89) to methodological and 16% (91) to empirical studies. The result of the predominance of theoretical articles does not come as a surprise. According to the evidence of this study, there is no consensus on the definition of consciousness, despite an intensive scientific search. The lack of definition can also be the reason for the high dispersion of the studies.

Figure 6: Number of Consciousness Articles per Type
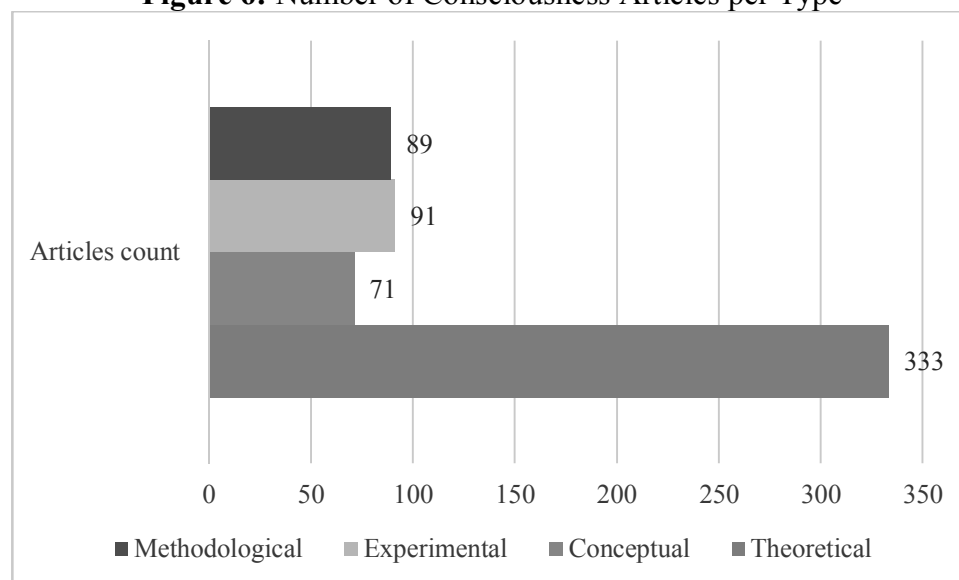
Source: Author

4. Discussion – Intersection and Interrelation of Consciousness and Entrepreneurship Competencies

Present literature on consciousness uses the term "consciousness" in different contexts and meaning. The term "consciousness" is used in literature as a synonym for "mind", for the phenomenology of everyday conscious experience, "self-consciousness", "wakefulness", "knowledge" or "cognition", "attention" and "awareness". With the emergence of information processing theory and information integration which is based on the premise that humans process the information they receive, rather than merely responding to stimuli, consciousness can be viewed as the complex structure responsible for the arrangement of and relations between elements of something rather even more complex.

This study outlined the prevalence of mono-disciplinary and predominantly conceptual research. The multiple intersections between consciousness functions and entrepreneurship competencies have been nominated. Screened articles have been classified for identification of types of the research, conceptual frameworks and referent disciplines. Contemporary

interdisciplinary research discoveries especially in cognitive psychology, neuropsychology, brain imaging, quantum mechanics, quantum biology and biophysics are moving our understanding of consciousness away from its simplified interpretation as the synonym for brain function (Dehaene and Naccache, 2001). The mapped literature provides evidence that consciousness possesses the ability to shift random physical systems out of randomness. Ultimately this indicates that our beliefs, thoughts, and intentions affect the physical world through the prism of consciousness as well. Modern science provides more evidence of consciousness as a fundamental structure of human being and the world. Grabovoi, (1998) considers the development of consciousness as an urgent and high priority task of humanity to be able to control, normalise and harmonise all events on a personal and global level. Structuring of human consciousness ensures infinite development and allow human beings to live in any circumstance. Such considerations are in line and support sustainable development goals (UN, 2015). Apostolopoulos et al (2018) indicate that entrepreneurship can be the engine for transforming our world and overcoming the diverse nature of global challenges and emphasize entrepreneurship role in leading and driving the development and transformation of the world. No matter how big or small business it turns to be, everything starts from one bright thought, one idea born in a single mind of a person with an entrepreneurial spirit. Therefore, what is next going to be in entrepreneurship and world development will depend on the quality and the structure of the consciousness and mind of a human being.

Based on the literature mapping six main streams of the consciousness functions have been nominated to determine the importance of consciousness research on the further development of the entrepreneurship behaviour or entrepreneurship competences. Van Gulick (2018) summarises previous research on consciousness in terms of consciousness functions. These are flexible control, social coordination, integrated representation, informational access, freedom of will and intrinsic motivation. In the schematic presentation of Table 4. Each of these functions is qualitatively assessed from the perspective of their importance and possible intersection and relationship with specific entrepreneurship competence. As per Van Gulick (2018), the consciousness has the function of highly flexible and adaptive forms of control when dealing with novel situations and previously encountered problems or demands (Anderson 1983, Penfield 1975, Armstrong 1981), in skill acquisition and during the initial learning phase (Schneider and Shiffrin, 1977), in the compilation of activities and control over execution (Anderson, 1983) which coincide with entrepreneurship competencies of coping with ambiguity, uncertainty and risk-taking initiative and learning trough experience. Consciousness has enhanced capacity for social coordination which is important in enhanced understanding of the mental states of others (Humphreys, 1982), in the formation of the beliefs, motives, perceptions, intentions and better awareness of both ourselves and others. This is related to the competency of working with others, self-awareness and self-efficacy. Consciousness serves for the unified and densely integrated representation of reality which is necessary in the integration of information from various sensory channels (Kant 1787, Husserl 1913, Campbell 1997) to embody its experiential organization and dynamics in the dense network of relations and interconnections that collectively constitute the meaningful structure of a world of objects and to allow more open-ended avenues of response. This function can be related to competencies of mobilising resources, financial and economic literacy and valuing ideas. Further, freedom of choice or free will determined by consciousness is relevant for opening a realm of possibilities, a sphere of options within which the conscious self might choose or act freely (Hasker, 1999). The freedom to choose one's actions and the ability to determine one's own nature and future development based on consciousness might be correlated with degrees or types of freedom and self-determination (Dennett, 1984). Competencies such as spotting opportunities, creativity and vision are related to functions of free will. Intrinsically motivating states of consciousness (Nelkin, 1989; Rosenthal, 1991) are reflected in the competencies such as motivation and perseverance and mobilising others.

Table 4: Consciousness Functions in relation to EntreComp

Consciousness Function	Importance (Van Gulick, 2018)	Entrepreneurship Competencies based on EntreComp
Highly flexible and adaptive forms of control	When dealing with novel situations and previously unencountered problems or demands (Anderson 1983, Penfield 1975, Armstrong 1981) In skill acquisition and during initial learning phase (Schneider and Shiffrin 1977) In compilation of activities and control over execution (Anderson 1983)	Coping with ambiguity, uncertainty and risk Taking initiative Learning trough experience
Enhanced capacity for social coordination	In enhanced understanding of the mental states of others (Humphreys 1982) To be aware of both themselves and others To have beliefs, motives, perceptions and intentions	Working with others Self-awareness and self-efficacy
More unified and densely integrated representation of reality	In integration of information from various sensory channels (Kant 1787, Husserl 1913, Campbell 1997) To embody its experiential organization and dynamics in the dense network of relations and interconnections that collectively constitute the meaningful structure of a world of objects To allow more open-ended avenues of response	Mobilising resources Financial and economic literacy Valuing ideas
More global informational access	For use of information and for application to a wide range of potential situations and actions (Baars 1988). Making information conscious widens the sphere of its influence and the range of ways in which it can be used to adaptively guide or shape both inner and outer behaviour	Planning and management Ethical and sustainable thinking
Increased freedom of choice or free will	To open a realm of possibilities, a sphere of options within which the conscious self might choose or act freely (Hasker 1999) The freedom to chose one's actions and the ability to determine one's own nature and future development may admit of many interesting variations and degrees and various forms or levels of consciousness might be correlated with corresponding degrees or types of freedom and self-determination (Dennett 1984, 2003)	Spotting opportunities Creativity Vision
Intrinsically motivating states	For attractive positive motivational aspect of a pleasure (Nelkin 1989, Rosenthal 1991)	Motivation and perseverance Mobilising others

Source: Author

5. Conclusion

With the use of the mapping review methodology, this study aimed to map the state of academic research in the territory of consciousness concerning the development of entrepreneurship competence. It is noticed that the interest in consciousness studies, in general, is rapidly increasing. Based on the review of the most cited articles it is concluded that scientists of every research field have developed consciousness definitions and theories that suit their research interest the best and therefore there is no unambiguous explanation of the phenomenon. The lack of a unified definition and standardised use of the term "consciousness" makes this research field even more complex. Within the scope of this study, great fragmentation and a wide dispersion of existing knowledge on consciousness have been found among various disciplines. The lack of synthesis or interdisciplinary studies related to consciousness and entrepreneurship competence development has been detected. However certain patterns and relations in consciousness and entrepreneurship competence development have been found. Having in mind the main meaning and purpose of education as the process of acquisition of knowledge, skills and values and taking into account consciousness functions, this study suggests that the relationship between consciousness enhancing methods and entrepreneurship competences development might exist and can be established and evolved by education. Presented interdependence calls for more detailed research on how methods for enhancing

consciousness functions may be adopted to improve the actual entrepreneurial competence or entrepreneurship education focused on new ways of learning and teaching entrepreneurship. Since this study was limited only to the mapping of the literature, further studies will need to be undertaken for systematic literature review and empirical confirmation of the possible relationship between consciousness development methods and entrepreneurship competences improvement. Therefore this study is presented with confidence that this research will serve as a base for future studies on the implementation of consciousness enhancing methods in the development of entrepreneurship competences.

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A scientific paper

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THE ROLE OF CONSCIOUSNESS IN THE ENTREPRENEURSHIP COMPETENCES DEVELOPMENT — TOWARDS EMPIRICAL RESEARCH DESIGN

ABSTRACT

Entrepreneurship has been lately defined as a transversal competence, which applies to all spheres of life. Entrepreneurial capacity development of citizens in general, not only of entrepreneurs, has become one of the key policy objectives of the European Union. Policymakers who are creating training programs have taken into account that entrepreneurship competence is developed through personal transformation. Relevant literature identifies human consciousness as personal transformation element and suggests that the relationship between consciousness and entrepreneurship competences development exists. However, conceptualization and identification of the role of consciousness and its developmental effect on entrepreneurship competence is only at the embryonic stage. Therefore, since consciousness is understood as an evolving construct, this study aims to investigate how and why it can be introduced into education to enhance entrepreneurship competences. This study is focused on the identification of appropriate research design to address these specific research questions. This study provides an overview of the appropriate research philosophies, approaches, strategies, and methods that may be useful in further exploration of consciousness and entrepreneurship education. The study indicates that appropriate research design of the relatively new and interdisciplinary phenomenon may benefit from the ontological hermeneutics philosophy. In addition, the research design should consider a pluralistic research approach and a combined methodology. It is proposed that quasi-experimental with pretest-posttest research method should be incorporated in the research design for primary data collection. Self-assessment test and individual statement are suggested to be conducted cross-sectionally. This study presents selected consciousness enhancing methods that may be used to operationalize key variables, namely consciousness development and entrepreneurship competences. The main contribution of the study is to provide a preliminary overview of the appropriate approach in empirical research design.

Key words: *entrepreneurship, entrepreneurship competences, entrepreneurship education, consciousness development, entrepreneurship self-assessment test.*

1. Introduction

Entrepreneurship has been praised for its significant economic, social, environmental and political impact and therefore has been an interesting and exciting field of study since the first notion of its concept. Various definitions and theories on entrepreneurship have been developed over the years, but the challenge of conceptualisation and articulation of entrepreneurship as a way of thinking and as a multidisciplinary approach to the process of creating economic and social value remained (Klein, 2006). Early economic theory significantly contributed to the

understanding of entrepreneurship, but somehow later it became uncomfortable territory for the research in economics due to the different and mutually exclusive philosophical assumptions about society, human behaviour and social change. Only lately entrepreneurship was defined as a transversal competence which enables people to actively participate in society, to manage their own lives and careers and to start value-creating initiatives (FFE-YE., 2012). The European Union declared that the aim of entrepreneurship education and training should be to develop entrepreneurial capacities and mindset of people that benefit economies by fostering creativity, innovation and self-employment (European Commission, 2008). Entrepreneurial effectiveness and personal transformation were set as critical elements of training programmes for entrepreneurs (Cooney, 2012). In 2016 the Entrepreneurship Competences Framework (EntreComp) was developed and launched, clarifying what the constituent elements of entrepreneurship competence are (Bacigalupo, et. al 2016.). The EntreComp conceptual model is based on the 3 competence areas 'Ideas and opportunities', 'Resources' and 'Into action', 15 competencies, 8-level progression model and a list of 442 learning outcomes. It bridges across the world of education and work. The proposed framework aims to foster personal transformation via education and learning. However, specific methods of entrepreneurship competences development have not been laid down. Therefore EntreComp stands as an open invitation to be used for further development and verification in formal and non-formal education.

The importance of entrepreneurship and entrepreneurship competence is evolving on the higher degree by the recent call for global transformation which was announced by United Nations as "The 2030 Agenda for Sustainable Development" adopted by all United Nations Member States in 2015 (UN, 2015b). The 2030 Agenda is the blueprint for peace and prosperity for people and the planet, now and in the future. At its core, there are 17 Sustainable Development Goals (SDGs), which are an urgent call for action by all countries - developed and developing - in a global partnership. Ending poverty and other deprivations must go hand-in-hand with strategies that improve health and education, reduce inequality, and spur economic growth – all while tackling climate change and working to preserve our oceans and forests. Apostolopoulos et al. (2018) indicate that entrepreneurship can be the engine for transforming our world and overcoming the diverse nature of global challenges and emphasize entrepreneurship role in leading and driving the development and transformation of the world. The quest for global transformation starts with personal transformation. Therefore, great interest in the research on human consciousness as a personal transformation element has been intensified as well. There is no evidence within scientific literature volume that explicitly consciousness concept has been incorporated significantly into entrepreneurship education. The purpose of this study is to attempt filling that void. Recent research results on consciousness and education give new meaning to entrepreneurship competences and argue in favour of an innovative education approach (Gibb, 2002; Kuratko, 2005; Béchard and Grégoire, 2005, 2007; Sarasvathy and Venkataraman, 2011). Morselli (2018) proposes that entrepreneurial education must make use of both innovative and student-centred pedagogies if it wishes to promote an entrepreneurial mindset. An innovative education approach opens the possibility to incorporate consciousness development practices into education for the development of entrepreneurship competences.

This study attempts to identify appropriate research design for the investigation of the ways how the two divergent territories like entrepreneurship and consciousness can be merged through education to foster entrepreneurship competence by personal transformation. The paper begins with the exploration of the theoretical framework and with the outline of main concepts, terms and definitions, namely entrepreneurship, entrepreneurship competences, entrepreneurship education, consciousness development and an entrepreneurship self-

assessment test. Based on definitions of relevant concepts and their detected interconnections, the further generic proposal of research design has been drafted.

2. Main Concepts, Terms and Definitions

The exploration of the role of consciousness in the development of entrepreneurship competence requires identification and clarification of the basic concepts that are a constituent part of the research subject. Based on the relevant literature review the theoretical framework is built around entrepreneurship, entrepreneurship competences, entrepreneurship education, consciousness development and an entrepreneurship self-assessment test.

2.1. Entrepreneurship

Entrepreneurship definitions have changed and evolved throughout research history. From adventure to value creation, innovation, self-employment, opportunity identification and venture creation. Lately, its social impact found the place in the definition. Kozlinska (2016, p25) defines entrepreneurship as a cumulative notion defined as a context-dependent social and economic process of discovering or creating, evaluating and exploiting novel opportunities by individuals as part of which a new firm or venture can be launched, owned, managed and/or sold, to contribute new value(s) to society, benefit the economy and an entrepreneur. In the broadest sense entrepreneurship is when you act upon opportunities and ideas and transform them into value for others. The value that is created can be financial, cultural, or social (FFE-YE, 2012). This definition is the base of EntreComp. So far in the entrepreneurship research, many aspects of the phenomena have been studied, from philosophy, theory, methodology, empirical, effects and their variations. Given the purpose of this study, it is found appropriate and important to reflect upon some philosophical views underpinning economic entrepreneurship research. The assumptions about reality, and upon position and role of the human being within the manifestation of entrepreneurship are important since initial philosophy laid down in the entrepreneurship research further dictates the course of the research, and interventions. Pittaway (2005) summarised philosophical assumptions in the economic approach to entrepreneurship as shown in Table 1. His in-depth historical review of the economic literature related to entrepreneurship discovered that entrepreneurial concept has been noticeably declined in economics due to the prevailing mutually exclusive philosophical assumptions. Pittaway (2005) concluded that both economics and entrepreneurship would gain if both interpretive and radical structuralist theoretical base is expanded. In such instance, interpretive philosophy would open economics research for the diversity of human action and its social impact, while radical structuralist could consider entrepreneurship as purposeful behaviour capable of the creation of radical change.

Table 1: Philosophical Assumptions in Economic Approaches to Entrepreneurship

	Ontological Assumptions	Epistemological Assumptions	Assumptions about Human Nature	Assumptions about Society	Paradigm
Neo-classical Economics	Reality as a concrete structure	To construct a positivist social science	Man as a responder	Social Order	Functionalist
English Classical Theories	Reality as a concrete structure	To construct a positivist social science	Man as a responder	Society as an Organic System	Functionalist

	Ontological Assumptions	Epistemological Assumptions	Assumptions about Human Nature	Assumptions about Society	Paradigm
French Classical Theories	Reality as a concrete process	To construct a positivist social science	Man as a responder	Society as an Organic System	Functionalist
Transaction Cost Economics	Reality as a concrete process	To construct a positivist social science	Man as an adapter	Society as an Organic System	Functionalist
Information-Based Transaction Cost Economics	Reality as a contextual field of information	To study systems, processes and change	Man as an information processor	Society as an Organic System	Functionalist
Calculable Uncertainty School	Reality as a concrete process	To construct a positivist social science	Man as a responder	Society as an Organic System	Functionalist
Uncertainty School	Reality as a concrete process	To study systems, processes and change	Man as a responder	Society as an Organic System	Functionalist
Austrian and Neo-Austrian Economics	Reality as a concrete process	To study systems, processes and change	Man as a responder	Society as a Morphogenic System	Functionalist
Schumpeterian Approaches and the Harvard Historical School	Reality as a contextual field of information	To map contexts	Man as an actor	Society undergoes Transformation	Functionalist with some Interpretive and Radical Structuralist elements

Source: adopted from Pittaway (2005)

2.2. Entrepreneurship Competence

Within the scope of this study, the entrepreneurship competence is understood as a set of knowledge, skills and values that need to be acquired to foster entrepreneurial activities, that is, to act upon opportunities and ideas and transform them into values. EntreComp is the official framework within the European Union, which promotes entrepreneurship as a competence contributing to economic growth (Bacigalupo, et al. 2016). The framework aims to achieve consensus on terminology related to entrepreneurial skills capacity and what exactly the constituent elements of entrepreneurship competence are. EntreComp conceptual model is based on 3 interrelated and interconnected competence areas: 'Ideas and opportunities', 'Resources' and 'Into action'. Each area consists of 5 relevant competencies as shown in Table 2. Furthermore, the conceptual model is developed into the 8-level progression model. Levels are: "Discover", "Explore", "Experiment", "Dare", "Improve", "Reinforce", "Expand" and "Transform". These levels are further followed by 442 learning outcomes. EntreComp has been addressed to education policymakers and is now being implemented in the practice of entrepreneurship education in various forms.

Table 2: Entrepreneurship Competences per area

	COMPETENCE	HINT	DESCRIPTION
IDEAS & OPORTUNITIES	1.1. Spotting opportunities	Use your imagination and abilities to identify opportunities for creating value	• Identify and seize opportunities to create value by exploring the social, cultural and economic landscape • Identify needs and challenges that need to be met • Establish new connections and bring together scattered elements of the landscape to create opportunities to create value
	1.2. Creativity	Develop creative and purposeful ideas	• Develop several ideas and opportunities to create value, including better solutions to existing and new challenges • Explore and experiment with innovative approaches • Combine knowledge and resources to achieve valuable effects
	1.3. Vision	Work towards your vision of the future	• Imagine the future • Develop a vision to turn ideas into action • Visualise future scenarios to help guide effort and action
	1.4. Valuing ideas	Make the most of ideas and opportunities	• Judge what value is in social, cultural and economic terms • Recognise the potential an idea has for creating value and identify suitable ways of making the most out of it
	1.5. Ethical & sustainable thinking	Assess the consequences and impact of ideas, opportunities and actions	• Assess the consequences of ideas that bring value and the effect of entrepreneurial action on the target community, the market, society and the environment • Reflect on h w sustainable long-term social, cultural and economic goals are, and the course of action chosen • Act responsibly
RESOURCES	2.1. Self-awareness & self-efficacy	Believe in yourself and keep developing	• Reflect on your needs, aspirations and wants in the short medium and long term • Identify and assess your individual and group strengths and weaknesses • Believe in your ability to influence the course of events despite uncertainty, setbacks and temporary failures
	2.2 Motivation & perseverance	Stay focused and don't give up	• Be determined to turn ideas into action and satisfy your need to achieve • Be prepared to be patient and keep trying to achieve your long-term individual or group aims • Be resilient under pressure, adversity, and temporary failure
	2.3 Mobilising resources	Gather and manage the resources you need	• Get and manage the material, non-material and digital resources needed to turn ideas into action • Make the most of limited resources • Get and manage the competences needed at any stage, including technical, legal, tax and digital competences
	2.4 Financial & economic literacy	Develop financial and economic know-how	• Estimate the cost of turning an idea into a value-creating activity • Plan, put in place and evaluate financial decisions per time • Manage financing to ma e sure your value-creating activity can last over the long term
	2.5 Mobilising others	Inspire, enthuse and get others on board	• Inspire and enthuse relevant stakeholders • Get the support needed to achieve valuable outcomes • Demonstrate effective communication, persuasion, negotiation and leadership
INTO ACTION	3.1 Taking the initiative	Go for it	• Initiate processes that create value • Take up challenges • Act and work independently to achieve goals, stick to intentions and carry out planned tasks
	3.2 Planning & management	Prioritise, organise and follow up	• Set long-, medium- and short-term goals • Define priorities and action plan • Adapt to unforeseen changes
	3.3 Coping with uncertainty, ambiguity & risk	Make decisions dealing with uncertainty, ambiguity and risk	• Make decisions when the result of that decision is uncertain, when the information available is partial or ambiguous, or when there is a risk of unintended outcomes • Within the value-creating process, include structured ways of testing ideas and prototypes from the early stages, to reduce risks of failing • Handle fast-moving situations promptly and flexible
	3.4 Working with others	Team up, collaborate and network	• Work together and co-operate with others to develop ideas and turn them into action • Network • Solve conflicts and face up to competition positively when necessary
	3.5 Learning through experience	Learn by doing	• Use any initiative for value creation as a learning opportunity • Learn with others, including peers and mentors • Reflect and learn from both success and failure (your own and other people's)

Source: adopted from McCallum et.al. (2018)

As mentioned in the introduction, EntreComp is still an open invitation to be used for further development and verification in formal and non-formal education.

2.3. Entrepreneurship Education

Education, in general, is the process of the acquisition of knowledge, skills and attitudes. Entrepreneurship education, based on the root origin of the construct is the linkage between the world of entrepreneurship and education. Entrepreneurship education, in particular, has three main objectives and three related approaches (Hytti and O'Gorman, 2004): 1) to build an understanding of entrepreneurship and the entrepreneur and their role in economy and society ("about" approach (Gibb, 2002; Pittaway and Edwards, 2012); 2) to grow entrepreneurial capacities for active participation in value creation by taking responsibility for life and career choices ("through" approach Kyrö, 2005; Pittaway and Edwards, 2012 (Lackeus, 2015;)); 3) to become an entrepreneur and pursue a business venture, ("for" approach (Gibb, 2002; Pittaway and Edwards, 2012). Three philosophies, traditional, functional and socio-constructivist, are laid out as the basis of entrepreneurship education (Verzat, et al. 2016). There are two separate forms of education: enterprise education and entrepreneurship education (Morselli, 2018). Enterprise education is aimed to increase the abilities and skills of students to generate ideas and to put them into practice. Entrepreneurship education is focused on the development of "*further knowledge, capabilities and attributes required to start a new venture or business*". In European practise these two forms have been combined. When discussing entrepreneurship education methods, there are two categories: traditional and innovative methods Mwasalwiba (2010). Further, learning and teaching methods are differentiated by the psychology paradigms adopted in entrepreneurship education, such as behaviourism, cognitivism and constructivism. Within behaviourism, learning is a result of a change in behaviour based on the repetition of actions (Kyrö 2005). The teaching is conducted in classrooms and based on reproduction without reflection. The disadvantage of such a learning approach is that it is rather a mechanistic process and learners tend to remain passive. Cognitivism is the paradigm which considers knowledge as the result of reasoning or intellectual intuition and learning are based on information memorising. Constructivism is the paradigm according to which knowledge is based on prior experience (Glaser, 1991). As much as entrepreneurship education research has been evolving, some critical views occurred. The main critics address the problems of entrepreneurship education research itself as well as of the development of learning theories (Verzat, et al. 2016). Shortages of entrepreneurship education research are identified as lack of critical approach, lack of research on "why" and lack of explicit learning goals and target methods. The critics are pointing out the directions of new development and perspective in the related research area (Verzat et al. 2016). Based on studies on the impact and outcomes of entrepreneurship education the socio-constructivist approach is providing a better outcome. It is focused on the development of creativity, initiative, metacognitive abilities, collaboration and experimentation (Verzat et al., 2016).

2.4. Consciousness and Consciousness Development

Based on consciousness functions of flexible control, social coordination, integrated representation, informational access, freedom of will and intrinsic motivation (Van Gulick, 2018), the intersection and interrelation of consciousness and entrepreneurship competencies can be found. It makes the topic of the role of consciousness development in excelling entrepreneurship competences worth studying further. But when it comes to consciousness and its definitions, there is no unambiguous explanation. The lack of a unified comprehensive definition of consciousness makes the related research more complex and even more diffused. Present literature on consciousness uses the term "consciousness" in different contexts and meaning, therefore the question of what consciousness refers to is also subject to research.

"Consciousness" is used in literature as a synonym for "mind", for the phenomenology of everyday conscious experience, "self-consciousness", "wakefulness", "knowledge" (Velmans, 2006) or "cognition", "attention" and "awareness". A few consciousness operational definitions circulating in science are (Thomas, 2019): consciousness is the dynamic, integrated, multimodal mental process entailed by physical events occurring in the forebrain (Płonka, 2015); consciousness is what disappears when we fall into a dreamless sleep and what returns the next morning when we wake up (Seth, 2015); consciousness is the awake state in which we have the experiences about which we can report at free will or request (Lamme,2005). A pragmatically relatable definition is that consciousness is the awareness at any given instant, of events happening inside the mind like thoughts, feelings, perceptions and of the objects encountered in the environment that cause sights, sounds, smells, tastes and touch. With the emergence of information processing theory and information integration which is based on the premise that humans process the information they receive, rather than merely responding to stimuli, consciousness can be viewed as the complex structure responsible for the arrangement of and relations between elements of something rather even more complex (Figure 1). That "something rather complex" has already been the contemplation subject of Plato and Descartes. Both considered that the material body interacts with the soul through consciousness, that soul is the source of consciousness and reason, and through the exercise of will, it manifests the body. Only in contemporary philosophical approach (Eccles, 1980), "soul" is replaced with "the self-conscious mind" (Thomas, 2019).

Figure 1: Information Processing Model
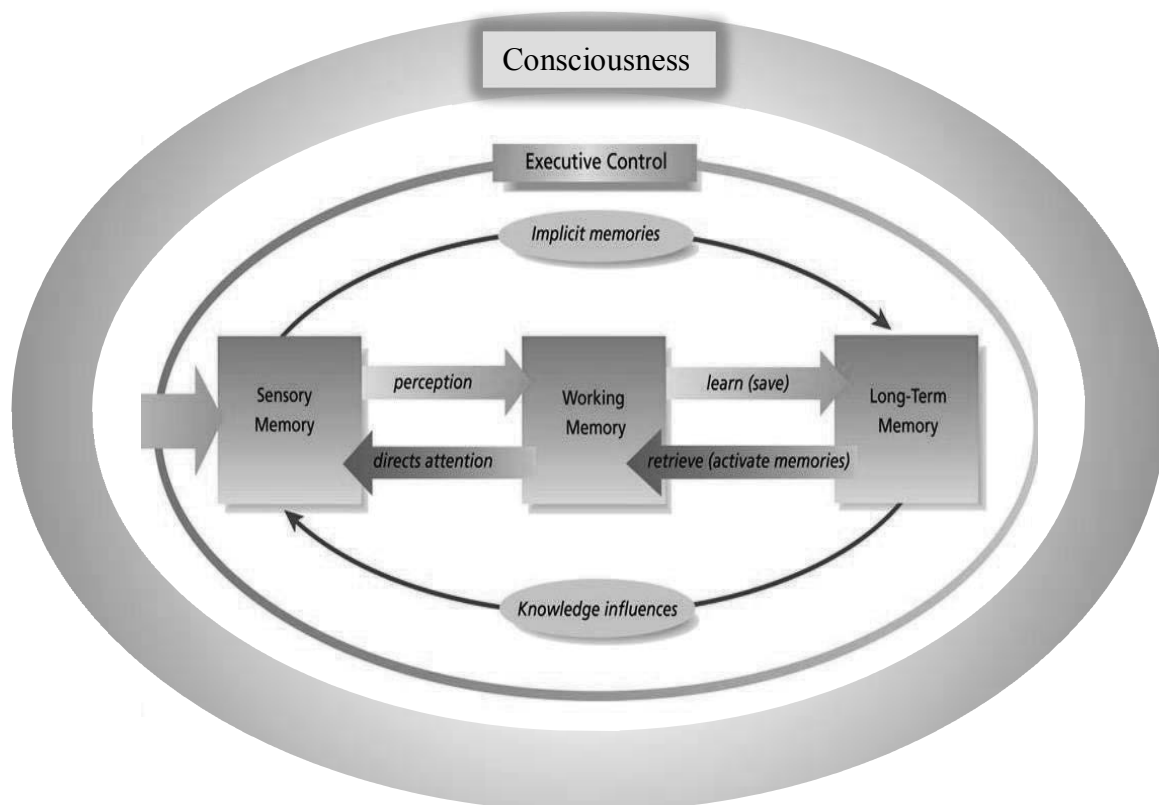
Source: adapted from Atkinson and Shiffrin model (1971) and Woolfolk (2017)

In the same way as Plato and Descartes, the explanation on consciousness is proposed by Grabovoi (1999) within the premises of his scientific research, work and practice compiled in the set of literature and patents used for consciousness structuring and development. His proposed teaching and learning methods are based on the concept of four fundamental structures of human being and the world. These structures are soul, spirit, consciousness and

physical body, where the soul is primordial world organising structure which is firm, stable, unshakable, immovable and inviolable. The spirit is the action of the soul; consciousness is the structure which combines informational (non-material, spiritual) and physical realities; the physical body is the material manifestation of the soul. These structures are essential for the fulfilment of two main tasks of human being, to create and develop. Human consciousness structure fundamentally ensures human life in any circumstance, that is, infinite sustainable development as it is set in UN's The 2030 Agenda for Sustainable Development. The said interaction between body, consciousness and the soul is the platform of knowledge acquisition where consciousness is the complex structure containing the cognition as the process of a series of actions taken to achieve a creative result through learning. Therefore, within this study consciousness is defined as the overall complex structure responsible for the arrangement of and relations between various elements such as perception, cognition, learning, knowledge, action, executive control and more elements. The learning is the term used for the process of acquiring skills or certain knowledge. Cognition is defined as the processes within acquiring skills or knowledge is taking place, and includes elements such as thinking, knowing, remembering and problem-solving. Generic and simplified arrangement of the structures and processes involved in information processing is shown in Figure1. The information processing starts with receiving input, then proceeds with the processing the information, and ends with output delivery. Input information is obtained through the senses, where the physical body plays the main role. The information of what is sensed trough physical body passes from sensory memory through the perception to short-term or working memory. The information is then processed and encoded which is identified as learning. It is further transferred as the knowledge to the long term memory. The information can be retrieved when necessary and knowledge can be implemented for executive control over the events and processes or new information processing and development cycle. When considering consciousness development, the existence of certain levels of consciousness is assumed. Morin (2005) identified following levels of consciousness: 1) unconsciousness – defined as being non-responsive to self and environment; 2) consciousness – defined as focusing attention on the environment, processing incoming external stimuli; 3) self-awareness – defined as focusing attention on self, processing private & public self-information; 4) meta-self-awareness - being aware that one is self-aware. He also suggests that the time and complexity of self-information are two important dimensions of self-awareness and meta-self-awareness. Morin (2005) also states that examining past and future aspects of the self and being capable of acquiring more conceptual (as opposed to perceptual) self-information indicate higher levels of self-directed thought. The variables that are shaping levels of consciousness are frequency of self-focus, amount and accessibility of self-related information, and accuracy of self-knowledge (Morin, 2005). Therefore the technologies (in terms of the set of techniques, skills, methods, and processes used in the accomplishment of objectives) and specific methods (in terms of the particular procedure for accomplishing the objective) of consciousness development target mostly these three variables. Mindfulness, meditation, concentration IMAP, ILP are just a few methods of consciousness, but merely cognitive development. Here it is necessary to distinguish cognitive from consciousness development methods. Implementation of the methods of consciousness development is expected to ensure access to higher levels or states of consciousness which enables enhancement of attention, perception, information processing, cognition, and the control of the processes and therefore access to the new development cycle. But how to measure consciousness? There is no evidence in the available literature of such measure being developed for consciousness as the structure. Instead, there are technologies to measure neural correlates of consciousness and brain activities such as neuroimaging, neuroelectric and neuromagnetic technologies (Functional Magnetic Resonance Imaging (fMRI), Positron Emission Tomography (PET), Deep Brain Electrical Stimulation (DBES) and Electroencephalography (EEG), Magnetoencephalography (MEG) and Transcranial Magnetic Stimulation (TMS)). For this study, the entrepreneurship self-assessment tests are found more

applicable for reliable measurement of the impact of the structural consciousness development practice within the education system.

2.5. Entrepreneurship Self-Assessment Tests

A considerable number of tools for measuring the impact of entrepreneurship education on students' entrepreneurial competence have been developed. As the preparation for the launch of the assessment tool for measuring entrepreneurship competence outlined within EntreComp, detailed analyses have been made on existing tools (Bacigalupo et. al., 2016, 2). The analysis has indicated a list of 54 self-assessment tools, out of which 12 have been examined in depth by origin and background, target audience and language, purpose, content and user outcomes. The list of tools is shown in Table 2.

Table 2: Self-assessment tools and competencies addressed

TOOL	Ideas and Opportunities					Resources					Into Action				
	Spotting opportunities	Creativity	Vision	Valuing ideas	Ethical and sustainable thinking	Self-awareness and self-efficacy	Motivation and Perseverance	Mobilising resources	Financial and economic literacy	Mobilising others	Initiative taking	Planning and management	Coping with uncertainty, ambiguity & risk	Working with others	Learning through experience
Empower Yourself	■	■	■				■	■	■	■	■	■	■	■	■
EIT Climate KIC															
Enterprise Catalyst	■	■	■				■	■			■	■	■	■	■
ESP	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Get2	■	■		■		■	■								
Go Forth			■			■	■	■	■		■	■	■	■	■
Grit Scale							■						■		
Loop Me	■	■				■		■		■	■	■	■	■	■
MTEE	■	■				■	■	■			■	■	■	■	■
Octoskills															■
Top360			■			■					■	■	■		
Youthpass														■	

Source: Entirely adopted from Bacigalupo et. al., (2016, 2)

The tools have been developed by individuals, organisations or consortia from different fields of work (education, business start-up, psychology and youth-work). Only EIT Climate KIC, Get2, Grit Scale and Top360 are designed for general and regardless of age audience. Analysed tools have been designed for assessment of entrepreneurship competence, employability, start-up including personality assessment and reflection on learning and the recognition of non-formal and formal learning. Content of tools is based on the use of question combinations to achieve more credible results. The outcomes are presented in the form of visual outcome diagram and/or explanatory report. When compared by EntreComp areas and competences all tools cover two or more areas (mostly "Into Action" area, while the least addressed is "Ideas and Opportunities"). Coping with uncertainty, ambiguity and risk is the most frequently addressed competence followed by motivation and perseverance and planning and management. Valuing ideas, ethical and sustainable thinking and financial and economic

literacy are the least frequently addressed competences. Tools originating from the entrepreneurship education field (ESP, LoopMe, MTEE, Octoskills, and Enterprise Catalyst) cover a broader range of the competencies. Based on the result of the analysis of existing self-assessment tools policymakers were recommended to develop an assessment tool in unison with EntreComp competences. Moreover, the project ASTEE for creation of such an assessment tool has been ongoing since 2012 funded by the European Community, the Competitiveness and Innovation Framework Programme (CIP). ASTEE has been designed to be used by researchers, policymakers and educators (Moberg at al. 2014). This measurement tool has been developed and verified based on pre-studies and pilot-tests to ensure its precision, validity and reliability.

3. Towards Research Design

In a previous chapter, the main concepts related to the role of consciousness in entrepreneurship competence development were discussed. These concepts are entrepreneurship, entrepreneurship competences, entrepreneurship education, consciousness and consciousness development, entrepreneurship self-assessment test. The following conclusions can be made:

a) United Nations' "The 2030 Agenda for Sustainable Development" is the call for global transformation to overcome the world facing challenges.
b) Entrepreneurship is recognised as a possible engine for the transformation of the world and overcoming global challenges.
c) Entrepreneurship is defined as a transversal competence which enables people to actively participate in society, to manage their own lives and careers and to undertake value-creating initiatives.
d) Education is exploring avenues and innovative approaches to foster entrepreneurship competence.
e) Entrepreneurship education objectives are to build an understanding of entrepreneurship and to grow entrepreneurial competence for active participation in society.
f) Entrepreneurship competence is developed through personal transformation.
g) Consciousness is a personal transformation element and its development is subject to education.

Based on the said premises, further research on the role of consciousness in the entrepreneurship competences development by the use of the methods of consciousness development can be proposed. Fore stated the importance of entrepreneurship propagation and entrepreneurship competence generation through formal and non-formal education system is the research problem that future researchers might find interesting to address. The question "what the role of consciousness in entrepreneurship competence development is" needs to be answered not only theoretically, but empirically as well. The diagram of the research design proposal is shown in Figure 2. For the studies in social sciences, it is necessary to take a certain philosophical position since it determines strategy and further course of the research. A proposed study on the role of consciousness development is philosophically positioned in such a way that so-called objective reality, independent of consciousness, does not exist. Therefore, ontological hermeneutics philosophy might be found as the starting point of the research since ontology is the philosophical field oriented to the study of the nature of reality of all that exists and hermeneutics is interpreting the phenomena of reality to be understood.

Figure 2: Research Design for the Role of Consciousness in Entrepreneurship Competence Development
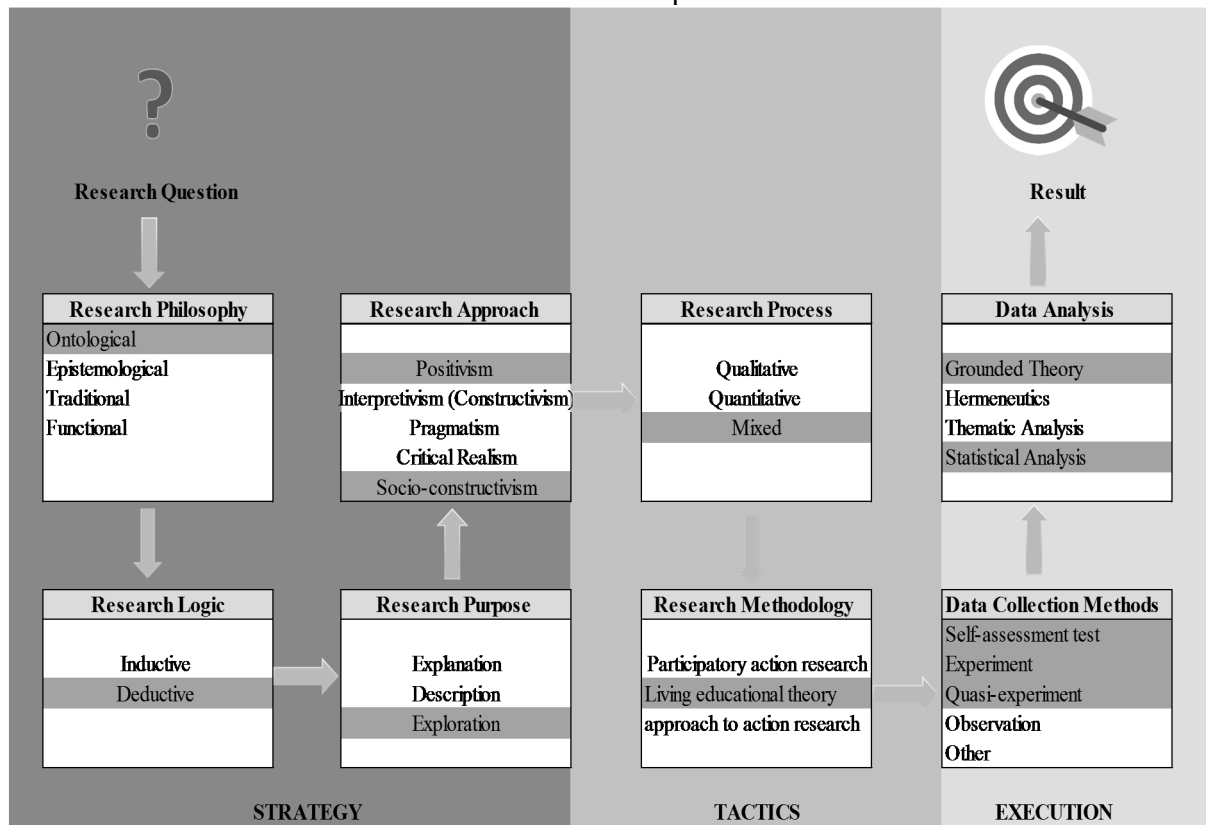
Source: Author

Deductive research logic should be followed in analysis and interpretation since the purpose of the study should be to empirically explore, describe and explain certain existing theoretical premises and assumptions related to the role of consciousness and entrepreneurship education in entrepreneurship competence development. Any of the research approaches can be pursued: positivism, interpretivism (constructivism), pragmatism, critical realism, and socio-constructivism. If the research is conducted in the field of entrepreneurship education then constructivist (knowledge is acquired out of learner's experience) and socio-constructivist (knowledge is acquired out of group experience) approach might be followed since it already showed certain advantages and impact confirmation. On the tactical level, research can be processed quantitatively, qualitatively or within a mixed process. The quantitative process would accommodate the search for the answer to "what" question, and qualitative to "how" and "why". Since here we speak about consciousness as the structure and element of personal and external transformation, action research methodology, oriented towards transformative change through action, matches consciousness functions. Action research could be conducted based on the use of methods and technologies of consciousness development proposed by Grabovoi. Selected methods are based on scientific research and doctoral thesis (Grabovoi, 1999). These methods and technologies are legally protected through patents (Grabovoi, 2000, 2001) and theoretically compiled as education program practised in non-formal education. Previously, the distinction of consciousness as a complex structure responsible for information processing, learning, creation and development have been discussed. Such an assumption is set in the foundations of Grabovoi's methods. The vast volume of his methods and technologies are compiled in the system of knowledge which allows the human through his/her thinking to structure his/her consciousness and attain harmonious control of events. By implementation of the methods and technologies the concentration of consciousness is increased, that is, processed information compactness and volume are increased. Therefore the development of consciousness allows a human being not only to perceive the world in its static phase but also

in its dynamic phase, where all elements of reality exist in dynamics and universal interrelations and therefore are changeable. Reaching the point of extended consciousness one does not limit oneself to perception only, but becomes an active and creative world element with infinite possibilities of safe development. At operative, an executive level of the research, especially in the early studies, the proposed methods and technologies of consciousness development should be exercised in the cross-sectional experimental or quasi-experimental form with pretest-posttest measurements of dependant variables, namely, entrepreneurship competence. Later, longitudinal research could be conducted. The methods of consciousness development should be introduced as an intervention. The participants of the experiment could be both, students and teachers, not only among the population engaged in entrepreneurship studies. It would be insightful to examine the intervention outcome and impact on entrepreneurship competence among students and teachers at any other faculty. The measurement of dependant variables would be conducted by one of the verified self-assessment tests discussed in paragraph 2.5. Since EntreComp covers 15 competencies, not all need to be tested in the initial phase. It might be sufficiently indicative to examine the results achieved on personality traits nominated as predominant for entrepreneurs, and those are creativity, self-efficacy and locus of control. Collected data could be analysed statistically or in other ways appropriate for analysis of data collected by qualitative and mixed research process such as grounded theory or thematic data analysis. Hermeneutic interpretation of the result, irrespectively of being significant or not, would provide a better understanding of the phenomena of consciousness and its role in entrepreneurship competence development.

4. Conclusion

Due to the imperative posed on entrepreneurship competence propagation as the global and personal transformation goal, this study aimed to investigate what the role of consciousness in entrepreneurship competence development is and how and why it can be introduced into education to foster entrepreneurship competence. This study is focused on the identification of appropriate research design to address these specific research questions. To reach the set objective, it was necessary to define main concepts, based on previous research practice and findings. Common understanding has been set on the definition of concepts such as entrepreneurship, entrepreneurship education, and entrepreneurship competences. However, the terminology and definitions of consciousness are significantly ambiguous and therefore the studies on consciousness more dispersed and confusing. Within this study, the consciousness is understood as a complex structure responsible for information processing, learning, creation and development. It is considered to be a changing element not only on a personal level but also the changing element of reality. Specific Grabovoi's consciousness development methods have been presented to be used experimentally in further studies on entrepreneurship competence and related research design has been proposed. The contribution of this study is the merge of two divergent territories of entrepreneurship and consciousness within the education system to foster entrepreneurship competence through personal transformation. Presented research design is not the only one nor did it exhaust all possibilities of a different configuration of strategy, tactic and execution settings of the future research. It is rather the invitation to researchers to take this, so far, the less explored avenue in study of both, consciousness and entrepreneurship competence or any other phenomena.

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DRIVING FORCES OF ENTREPRENEURIAL DECLINE OF MAIN URBAN AREAS IN EASTERN CROATIA: HISTORICAL PERSPECTIVE

ABSTRACT

The paper investigates conditions, causes and consequences of economic and social development of major urban areas in Eastern Croatia for the period between 1900-2020. The aim of the paper is to describe and analyze the economic and social changes in observed period as well as to address the impact of these changes on the levels of entrepreneurial development. At the moment Eastern Croatia is significantly lagging behind rest of Croatia who is also well below the EU GDP average, with the negative trend in last few years. By examining antecedents and consequences of economic and social circumstances that define environment for fostering entrepreneurial activity the paper gives insight into ways of enhancing economic development of Eastern Croatia. Productive entrepreneurship needs suitable business environment and lack of such environment creates barriers to the functioning of SMEs in one hand, and leads to problems with corruption, at the other hand. In this paper we tackle the issue by chronologically examining four major influences that led to today's aggravating features of the economic development of urban areas in East Croatia: corruption, depopulation, lack of vibrant and dynamic urban areas and finally a high relative discrepancy in educational levels in respect to more developed areas which leads to the lack of knowledge necessary for a more significant economic development.

Key words: *East Croatia, entrepreneurship, economic development, social development, economic history.*

1. Introduction

The development of Croatia, in terms of difference between its regions, is uneven. The eastern and southern parts of the country have a significantly lower level of development as well as the dynamics of development compared to the western and northern parts. One of the factors of this phenomenon could be interpreted by the environment, that is, the positive influence of the more developed countries than Croatia in the west and north, Slovenia, Austria, Italy, as well as the proximity to Western Europe. If one considers the problem of development from the national point of view, then it is necessary to define the key factors that affect the lower level of

development in the eastern region in respect to western part of Croatia. The purpose of this paper is to propose and analyze the key factors that adversely affect the trend of economic development of the eastern part of Croatia. By analyzing most important research outputs as well as the reports of the national statistics and the reports of EUROSTAT, it can be concluded that corruption and education are crucial factors of development of any national economy. Furthermore, by analyzing historical underpinnings of developments of European economies from the recourse of economic sociology, we propose that the size of cities is also an important element of industrialization and urbanization of Europe, and similarly of Croatia. Accordingly, the aim of this paper is in the valorization of key factors that influence the development dynamics of Eastern Croatia. As a research hypothesis, it is argued that the historical heritage, level of education, size of cities as economic hubs and especially level of corruption are the key influences on the development of Slavonia

2. Historical aspects of development of Eastern Croatia

Throughout history, Croatia has significantly changed its borders and functioned first as conglomeration of several principalities that were by no means other than the ancient royal heritage that was lost in 1102AD. In the 15th century, its borders were significantly shifted to the west and its area was the smallest. Similar things happened with Dalmatia, which was also changing its borders, losing territories and changing its principals in a dramatic manner. In the north of present-day Croatia, for centuries there were two principalities, Banska Hrvatska and Slavonia, that had certain level of unification only from 1558 to 1681.

Since 1681, all three councils have been linked in one with the full name "Congregation of the Kingdom of Croatia, Dalmatia and Slavonia" (Congregatio Regnorum Croatie, Dalmatiae et Slavoniae), and this name remained until 1918. However, despite this unity in the Triune Kingdom, present-day Croatia consists of a number of provinces that frequently changed their principals. Of course, highest intensity of turmoil was to be found at the bordering provinces such as Slavonia. Regardless of the fact that Slavonia was partly developed from agriculture point of view in the time of industrialization of Austro-Hungarian monarchy, necessary invests in terms of the traffic connections roads, especially railways, did not take place in the needed extent.

During the short period of the first appearance of industrialization in Croatia, at the end of the 19th and the beginning of the 20th century, the first small production facilities were formed. That is, while the industrial nucleus (Hobsbawm, 1987) (England and France, and after beginning of the 19th century, Italy and Germany) were developing large scale factories, the first workshops began to open in Eastern Slavonia. These were mostly crafts and manufactories with a small number of workers. First factories began to appear in the first half of the 20th century. It should be emphasized, however, that Slavonia continued to be predominantly agricultural, noting that in Banska Hrvatska and Slavonia, from Zagreb to Osijek, estates were increasingly fragmented over time, which did not allow for a significant development of industrial practices in agriculture. The fragmentation of estates was not diminishing, which was further inhibiting industrialization of Slavonia agriculture.

Despite the fact that agriculture had a high share in the structure of the Croatian economy, the 20th century witnessed beginnings of industrialization that took place in urban centers, especially in Zagreb, but also in Osijek, as well as in small urban settlements of Eastern Slavonia. An analysis of the economic development of Croatia and Slavonia indicates that the development took place unevenly and at a much slower pace than in the countries of the Austro-

Hungarian and Austrian empires (Karaman, 1972). For example, Osijek is associated with silk production, a mill steam engines, factory production of matches, an oil factory, as well as a textile manufacture. The smaller urban settlements of Eastern Slavonia were also in the process of industrialization, and in 1890 the Chamber published a list of enterprises, steam engines and workers distributed in five industries.

Table 1: Industry in Slavonia in 1890

Industry	Number of companies	Steam engines		Workers
		Number	HP	
Wood industry: 7 steam sawmills 7 factories of wood products	14	19	1.035	1.594
Chemical industry: 5 tannin factories 1 matches factory 1 gas factory	7	27	1.796	1.160
Construction industry: 2 cement factories 2 steam brickyards	4	6	442	917
Mill industry: 10 merchant stationary mill factories	10	14	477	190
Other industry: 4 tool factories 3 glass factories 2 leather factories 1 hemp factory 8 breweries 2 printing factories	20	11	80	558
UKUPNO	55	77	3.830	4.419

Source: Karaman, I. (1972). Privreda i društvo Hrvatske u 19 stoljeću, Školska knjiga, Zagreb, p. 169.

It can be concluded that in the late 19th and early 20th centuries, Eastern Slavonia was in the process of nurturing its industry, but this process depended on financial support as well as market demands of centers of Austro Hungarian Monarchy. In this regard, it should be noted that in Osijek in 1867, after many efforts, the Osijek Savings Bank was founded, and then a bank aimed at supporting the development of Eastern Slavonia. Important issues concerning another factor of development, market connectivity, was the construction of railway lines. Unfortunately, the investment in development of rail transport, which was dominant way of industrial transport in the late 19th and early 20th centuries, was too large for the monarchy as well as for domestic investors. Out of the 286 km of railways built in Croatia in the period from 1860 to 1870, the lines that were of interest to Eastern Slavonia was the line Erdut - Dalj and Osijek - Villany in the length of 56 km (Stipetić, 2012). Since alternative ways of transport were needed, the river traffic that connects the important port of Sulina in Romania with Vienna was developed (Karaman, 1972).

The difference between development of western and eastern parts of Croatia can be observed by comparator of industrial potential of Zagreb and Osijek as showed in Table 2.

Table 2: Number of joint stock companies and their capital in 1910

Cities and counties	Number of joint stock companies	Capital in mil HRK (Croatian Kuna)
City of Zagreb	18	8.891
City of Osijek	7	8.206
Croatian counties	19	14.849
Slavonia counties	14	19.157
Total	58	51.103

Source: Karaman, I. (1991): Industrijalizacija građanske Hrvatske (1800-1941) Naprijed, Zagreb, p. 35

As can be seen from Table 2, the city of Osijek as well as the Slavonia counties, despite its numerous issues, primarily its poor connection with the western market of the Monarchy, coped well in respect to larger city of Zagreb. However, after World War I, Zagreb began to develop faster than Osijek, and this difference would continue to increase after World War II, in the former communist Yugoslavia.

After the Second World War and in the time of communist Yugoslavia, a politically controlled economy and forced industrialization were implemented. Its apparent results were positive in the case of the eastern counties of Slavonia, but the negation of the market and its regularities took a toll on the broken Yugoslav economy, as well as the economy of Osijek and eastern Slavonia counties. This situation was very visible in the case of education, especially from the fields of economics and law, as it focused on the quasi-scientific concepts of a not-for-profit socially agreed economy which consequently gave rise to underperformance in business conducted under market mechanism and omnipresent corruption.

Entrepreneurial activity is what drives economic prosperity. Before we go on with our proposal of reasons for economic situation in East Croatia we will take a look at the current state of affairs regarding development of entrepreneurship in Croatia and East Croatia especially as described by the Global Entrepreneurship Monitor in their annual publication GEM 2018/2019 Global Report (Bosma, Kelley, 2019).

According to the Global Entrepreneurship Monitor (Exhibit 1) major problems of Croatian entrepreneurship can be found in areas of culture and social norms, internal market burdens of entry regulation, government policies and entrepreneurial education in post-school stage. Key factors that determine dynamics of economic development as described in this paper tackle these burning issues of entrepreneurial development.

Exhibit 1: Expert ratings of the entrepreneurial framework conditions - Croatia and GEM average

Source: Bosma N. Kelley D. (2019). Global Entrepreneurship Monitor 2018/2019 Global Report, GEM. p. 75

Focus of this paper is Eastern Croatia which is for years now falling behind rest of Croatia. According to the recent Global Entrepreneurship Monitor survey for Croatia (Singer, Šarlija,

Pfeifer, Oberman Peterka, 2018) Eastern Croatia has the last rank for entrepreneurial activity in 2017 (Table 3).

Table 3: Development profiles of regions in Croatia, 2017

Region	Development index		GDP pc 2015		Unemployment 2017		Entrepreneurial activity 2017			
	%	Rank	EUR	Rank	%	Rank	New entrepreneurial activity		Motivational index	
							TEA	Rank	TEA Opportunity/ TEA Necessity	Rank
Zagreb and surroundings	155.34	1	13 422	1	8.1	5	9.9	2	2.6	2
Slavonia and Baranja	29.26	6	6 668	6	19.8	1	5.1	6	0.9	5
Northern Croatia	52.88	5	7 795	5	12.93	4	8.8	4	1.4	4
Lika and Banovina	53.29	4	7 962	4	18.6	2	6.7	5	0,9	5
Istria, Primorje and Gorski Kotar	148.01	2	12 998	2	6.3	6	9.8	3	4.8	1
Dalmatia	100.48	3	8 950	3	13.45	3	11.2	1	1.5	3

Source: Singer, S., Šarlija, N., Pfeifer S., Oberman Peterka, S. (2018). What makes Croatia a (non)entrepreneurial country? GEM Croatia 2017, CEPOR – SMEs and Entrepreneurship Policy Center, p. 67

In order to suggest ways to change the situation we need to understand the reasons why the entrepreneurial situation is at this level, that is we need to define crucial driving forces that led to current level of economic development.

3. Key factors determining dynamics of economic development Eastern Croatia

We argue that the key factors determining dynamics of economic development of Eastern Croatia are: size of cities as economic hubs, population and their level of education and influences of law governed social structures approximated with the level and importance of corruption.

3.1. Role of urbanization in economic development of Slavonia

The first and then the second industrial revolution, which began in England and soon spread across Europe, where tied with the development of larger urban areas. Civil society and the new civic order benefited to the developed of the middle class social strata, especially in large cities. Agriculture, which in all European countries was a structurally dominant industry, was on the one hand industrialized, and on the other it gradually lost its primacy in the structure of developed national economies. The decline in agricultural development, which entailed the diminishing the importance of villages, gave way to the development of large cities in which industrial production developed. Thus, large cities have become a main factor in the economic development of each country.

UN estimations are that from 1950 to 2050 on the global scale, number of people living in cities relative to those living in villages will be inverted (Exhibit 2).

Exhibit 2: Estimated proportion of people living in cities from 1950 to 2050

Data Source: United Nations, http://esa.un.org/unup/p2k0data.asp
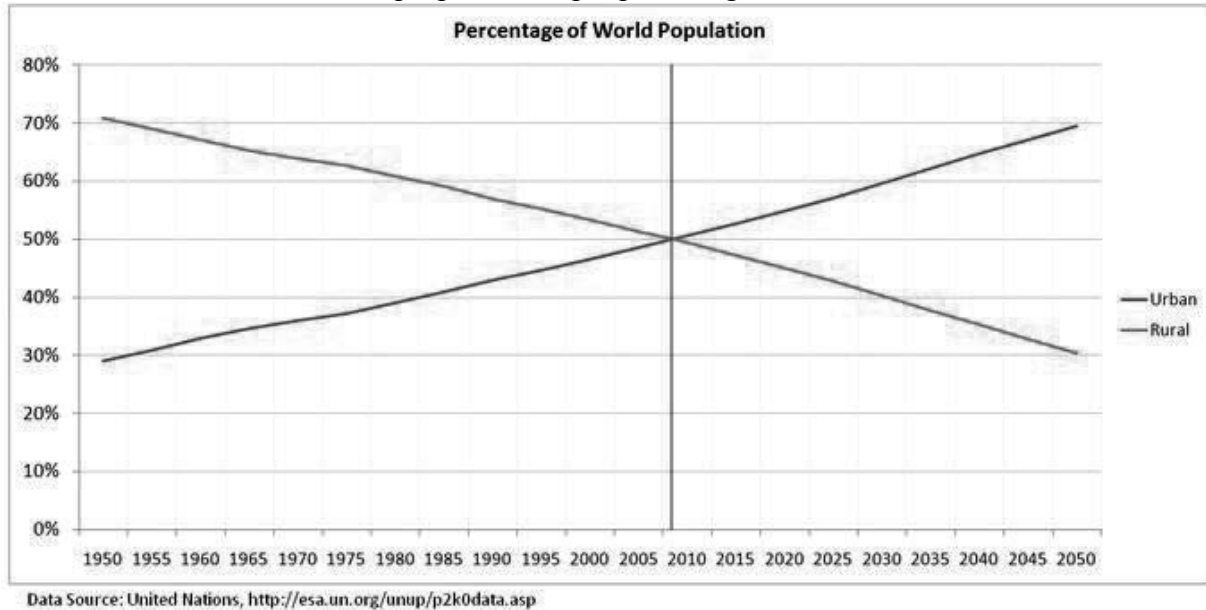
According to the definition of sustainable urban development researchers: "In essence, the city is a socio-economic entity of high concentration of production and living factors composed of the mutual integration of the natural, artificial, and socio-economic environment" (Xiangsheng, Li, Wang, 1998, pp 429-430).

The city therefore can be understood as a space where there is a high concentration of all factors of life, noting that these factors as well as human needs are changing over decades. It should be noted here that in the less developed communities, cities become factors of a high degree of local patriotism, that is, of glorifying the beauty and value of the city where one lives, which adversely affects national integration. In other words, national integration is an important component of modernization and a factor of wider business and cultural activity, that is, national integration is a process of overcoming localism (Gross, 1985), which is of utmost importance for the development of Croatia. Therefore, the question remains as to the relationship between the size of urban settlements and the economic and overall development of a country or a larger region, such as Slavonia.

The pace of urban development has been accelerated over last decade, raising the issue of the sustainable life of people on earth, in which the village is almost non-existent. Hence Swilling (2016) notices that "For the first time in human history, most of us live in urban settlements - from megacities of 10-20 million, of which there were 28 in 2014, to medium-sized cities of 1-5 million (417 in 2014), and smaller settlements (525 of between 500,000 and one million people in 2014). Looking ahead, the largest growth will not occur in megacities but these small- and medium-sized cities" (Rockefeller Foundation, 2016). Especially interesting is Swillings anticipation of the process of population decline in large mega-cities and the development of smaller cities, between 500,000 and 1 million inhabitants.

What are the consequences of these issues for Croatia and for Slavonia. Firstly, at a time when the size of cities was a key component of industrial development, there were no suitable cities in Croatia that would drive economic development from that perspective besides partly Zagreb. Therefore, for foreign investors, Croatia, and especially Eastern Slavonia, remained only as a source of needed resources, but not as a market that provides significant profits. Even local

entrepreneurs were mostly focused on survival rather than accelerated development. Opportunities in Croatia were therefore below the minimum size of cities compared to the dynamics of the development of the nucleus, but also of the Monarchy, which consequently hindered economic development of these areas.

Table 4: Size of cities of *nucleus*, periphery and Zagreb from 1800 to 1940

Cities	1800	1850	1900	1910	1940
London	1,011,157	2,286,609	5.896.175	7,157,875	7,987,936
Paris	<1.000.000	>1.000.000	Ø4.000.000	Ø4.500.000	Ø5.700.000
Berlin	172,132	446.000	1,888,848	2,071,257	4,338,756
Rome	-	Ø190.000	422,411	518,917	Ø1.300.000
Vienna	271,800	551,300	1,769,137	2,083,630	1,770,938
Zagreb	7.706	16.036	61.002	79.038	Ø 230.000
Warsaw	63.000	163.000	686.000	Ø800.000	1.300.000

Data source: public domain

In such a constellation of strengths of cities, it is obvious that Croatia, and especially Slavonia, were far behind. The share of the agricultural population of Croatia in 1820 was 89%, and in 1921 it was 73% (Karaman, 1972). At the same time, all countries in the Monarchy had a smaller rural population, which meant that they had faster industrial development. In 1910, for example, the Czech Republic has 32% and Lower Austria only 18% of the rural population (Gross, Szabo, 1972; Stipetić, 2012). So at a time when the size of cities was a key factor in the development of industrialization, as well as development in general, Croatia had almost no cities.

3.2. Depopulation as a factor of economic development of Slavonia

Throughout the history of Slavonia, development opportunities have been very limited due to the small number of inhabitants, and lack of larger urban areas. For example, in 1851 Croatia and Slavonia (excluding Dalmatia) had a population of 880,981, at 18,300 km2, and in 1880 1,194,415 inhabitants at 23,278 km2. Therefore average population density was 57 people on km2 in 1851 and 51 st/km2 surface in 1880 (Szabo, 1987). The reason for diminishing of population was also emigration in Vienna in 1873 due to the financial crisis, as well as mortality, especially of infants, which grew due to lack of health staff. Croatia and Slavonia were, both demographically and economically, just slightly more developed than Dalmatia, marked the overall Croatian environment as backward. The economic crises that came from the monarchy (the collapse of the stock market in 1873), illnesses and a high mortality rate affected the displacement of Slavonia and thus the population of cities. In the second half of the 19th century, Croatia had only 10 cities with more than 10,000 inhabitants. At the end of the 19th century, specifically in 1890, northern Croatia had 17 cities (according to the statute criteria) and 71 settlements with more than 2,000 inhabitants but less than 10,000. Twenty years later, in 1910, the number of cities and their population did not change significantly. As regards industrialization and labor, in the period from 1900 to 1910, the number of workers in enterprises with 21 or more than 500 workers in operation nevertheless increased by 63.3%. Thus, the development of the workers' movement took place in the cities, and thus the industrial perspective in Slavonia, especially Osijek, grew rapidly. Structurally, in the years 1900 and 1910, workers accounted for over 55% of the workforce in 1910 plants. Conditionally, the "big" cities assumed economic primacy at the beginning of the 20th century, with Zagreb employing 19.5% of the population of Croatia and Slavonia in 1900, and 29.1% in 1910. Large cities

therefore have higher levels of population growth while small cities are slowly growing or stagnating and some settlements are disappearing.

As it can be seen from Table 4 four biggest Croatian cities have constant growth of population

Table 5: Four biggest Croatian cities in respect to number of inhabitants

Year/city	Zagreb	Split	Rijeka	Osijek
1857.	38 898	37 806	48 216	36 047
1869.	44 930	42 355	51 397	45 013
1880.	56 459	45 931	55 077	43 691
1890.	70 595	50 603	67 633	48 790
1900.	98 322	58 212	81 309	55 912
1910.	121 363	64 414	97 029	65 430
1921.	153 448	71 550	90 529	67 716
1931.	242 063	86 124	102 609	80 116

Source: Korenčić, M., 1979.: Naselja i stanovništvo Socijalističke Republike Hrvatske, Republički zavod za statistiku SR Hrvatske, Zagreb

Zagreb, as the largest city, also has the highest dynamics of growth. In other words, in the period of 74 years (1857-1931) Zagreb achieved an average annual growth rate of 2.5%, while Split and Osijek achieved an annual growth rate of 1.1% and Rijeka 1.0%. At the same time, Croatia has an average annual population growth rate of just 0.7% over the same period, which indicates a lag of smaller cities and towns compared to large cities. Such a trend has continued to this day, so from 1931 to the last census in 2011, Zagreb achieved an average annual population growth of 1.5%, Split an increase of 0.9%, and Osijek and Rijeka only 0.4%, or 0.3%. During this same period, the population of Croatia averages an annual growth rate of just 1.16% (DSZM 2011).

Furthermore, considering GDP as the most representative indicator of economic development, the 2015 Croatian Chamber of Commerce analysis shows very similar results to the population movements in Croatian cities. In other words, for years, Zagreb has consistently generated about 70% of Croatia's GDP per capita, while Osijek-Baranja County has achieved 20% less GDP than Croatia's average. Certainly, Osijek, as the largest city of Slavonia, plays a big role in this. Earlier research has shown the importance of cities for the development of Croatia, with Slavonia clearly behind. Namely if we look at cities in particular regions (regardless of the size of the city) then they as a whole of cities in a particular region have achieved an efficiency index in this order: (1) Western Croatia cities (108.1) (2) Central Croatia cities (101.5), (3) cities of Southern Croatia (100.9), (4) cities of Northern Croatia (99.4) and (5) cities of Eastern Croatia (95.3) (Crkvenac et al, 2008).

Therefore, it is indisputable that the development of Croatia takes place and is based in cities, with the fact that the only size of Zagreb meets the above defined criteria of faster further development of cities between 500,000 inhabitants and 1 million. For now, Osijek is lagging behind, and other cities smaller than Osijek need to look for their own models and development paths, such as Vukovar.

3.3. Education as a function of economic development

Today, just the case was in history, connection between education and the labor market bears in large extent the old misconception that "science is one thing and practice another". From historical perspective Croatia and Slavonia fell into the country with the largest number of illiterate population in the Monarchy in the middle of the 19th century. The male population in 1869 was 75% totally illiterate and 88% were illiterate, and in 1880 there were 67.9% of illiterate men and 79.9% of women (Gross, Szabo, 1992).

Table 6: Main occupation in year 1880 and literacy in year 1869 in Croatia and Slavonia

Main occupations in 1880 %					Literacy % (1869)			
a. CROATIA	Intelectual	Agriculture	Employed house help and others	Rentiers	Reading and writing	Only reading	Completely iliterate	Σ
Cities	10,95	24,32	57,98	6,75	44,97	0,75	54,28	100
Σ Counties	0,71	91,36	7,17	0,76	10,76	1,42	87,82	
b. SLAVONIA								
Cities	11,69	8,54	74,5	5,27	52,87	0,78	46,35	100
Σ Counties	1,18	84,35	14,02	0,45	12,22	0,76	87,02	100

Source: Szabo, A. (1987): „Demografska struktura stanovništva civilne Hrvatske i Slavonije u razdoblju 1850-1880., Historijski zbornik, god. XL (1) str. 221., Gross, M. & Szabo, A.: „Demografski društveni procesi, Globus, Zagreb, str. 44., 51.i 72.

The current state of development of this segment of the development of the society, which is a prerequisite for economic development, can be approximated by the level and quality of today's education, about which, especially for the past several years, there is a lot of disputes. In the European Commission's Education and Training Monitor EU analysis 2018 study analyzing and comparing the most important challenges facing EU education systems in Croatia, 3.1% of young people aged 18 to 24 given up from schooling, which is an increase in compared to 2.8% in 2014, but it is significantly lower than the EU average, which stood at 10.6% in 2017 (Hruska, Luković, 2019).

In such environment, education becomes a crucial obstacle in economic development as well as an indirect factor of social and economic problems such as corruption and nepotism. As a result of a high degree of inadequate knowledge, the Croatian economy is operating in the absence of a stable and efficient economic system.

3.4. Corruption and its influence of economic development

Since the beginnings of organized human life, corruption has been its attendant phenomenon. Corruption is often associated with poverty, but it is still, to a greater or lesser extent, represented in all economies. Corruption is considered to be a social and economic problem, with profoundly negative consequences.

Therefore, the question remains how and to what extent corruption restricts economic development, especially in transition economies such as Croatia. Firstly, Croatia as a new country had to organize its institutions from scratch which is in any context hard and long term process. Each process, at its inception, has a phase of chaos, and this is especially true of the period of formation of new states and economies. For example, all countries born after World War II went through the chaos of birth as the first developmental stage, but that phase should not last long. If, however, the chaos phase lasts too long, corruption becomes a factor of the national economy, which, in the phase of state consolidation and economic growth, needs an organized fight against it, above all political. Croatia is an example of too long consolidation, transition and chaos, which in recent years has resulted in more frequent research and demands to prevent it.

The phenomenon of corruption in Croatian society is mainly viewed in the criminal law context. In recent years, however, special attention has been paid to the phenomenon of economic corruption. There is undoubtedly a strong increase in the interest of domestic and especially foreign economists in researching the impact of corruption on a number of macro and

microeconomic indicators, such as: GDP per capita, economic growth rate, investment, shadow economy, foreign direct investment, public expenditure, and more. Of course, not only can the impact of corruption be explained by the movement of particular economic indicators, but such a causal link cannot be fully explained without understanding this relationship.

In the last two to three decades, the number of authors studying the impact of corruption on economic growth has increased. Thus, Baumol (1990) studied a particular form of rent-seeking corruption and chronologically argued its negative impact on economic growth. Barro (1991) and Brumm (1999) reached the same conclusions. Murphy, Vishny, and Schleifer (1993), on the other hand, have studied structure of different remuneration models of manufacturing employees, as well as those involved in certain forms of rent-seeking. The authors conclude that rent-seeking has a negative impact on economic growth. Furthermore, Cole and Chawdhry (2002) surveyed companies with a lobbying mandate in public administration, analyzing their numbers with respect to the size of a particular economy. Of course, they also found that rent-seeking has a detrimental effect on economic growth, but it also has a detrimental effect on public investment and public services. Moreover, Baumol (2004) concluded in his later studies that rent-seeking influences the strengthening of one part of the economy, that is, the part related to non-productive activities.

The detrimental impact of corruption on economic growth has been confirmed by a number of other authors, such as Shleifer and Vishny (1993) who have conducted and published interesting research conducted in Russia, the Philippines and Africa, concluding that corruption is an important cost to society. The negative impact of corruption on economic growth is also confirmed by Sachs and Warner (1997), Mauro (1996), Brunetti (1997), Ehrilch and Lui (1999), Kaufmann, Kraay and Zoido-Lobaton (1999), Leite and Weidmann (2002), as and Gyimah-Brempong (2002), Neeman, Paserman and Simhon (2004), Welsch (2004), as well as Pellegrini and Gerlagh (2004).

In his research, Mauro (1995) highlighted the negative impact of corruption on investment. Louis (1996) offers the same opinion, but with the risk that the negative impact of corruption is related to the long-term growth rate. Especially important from our perspective is the results of Méon and Sekkat (2005) research, which concludes that central government inefficiency is the main reason for the negative impact of corruption on economic growth. Also Aidt, Dutta, and Sena (2008) came to the similar conclusion that the level of institutional quality is the main reason for the negative impact of corruption on economic growth, that is, in countries with high levels of institutional quality, corruption has no effect on economic growth. Although, in their research of EU transition economies, Abed and Davoodi (2002), disagree with this conclusion.

In this part of the paper we are focusing on the relationship between corruption and economic growth in Croatia, with an emphasis on eastern Croatian counties.

Croatia, as an economy in transition, is susceptible to corruption and so far it cannot find a way organize its economic and legal system, in which corruption would, if not prevented, be at least high risk for the perpetrators. In such unfavorable conditions, corruption seems to have become part of the entire state system, which directs the problem towards political power, as discussed by Mo, Méon and Sekkat (2005), as well as others.

Table 6 shows results from Corruption Perception Index (CPI) according to the Transparency International. Perception of corruption in transition counties is relatively high. Out of all EU transition economies, Estonia has the lowest corruption index. The macro-European region of Baltic states is the place where Europe's strongest and most cooperative economies in transition are found. This collaboration is based on a logical life attitude, which is that it is not good to have a poor neighbor if you are rich because it always implies trouble. As one can see, Denmark,

Finland and Sweden are leading European and world economies in terms of eliminating corruption, while Austria is historically significant in the 9th place in the EU

Table 7: Corruption Perception Index (CPI)according to the Transparency International data from 2008 to 2018

Countries	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Denmark					90	91	92	91	90	88	88
Finland					90	89	89	89	89	85	95
Sweden					88	89	87	89	88	84	85
Austria	81	79	79	78	69	69	72	76	75		
Slovenia	67	66	64	59	61	57	58	60	61	61	60
Estonia	66	66	65	64	64	68	69	70	70	71	73
Czech R	52	49	46	44	49	48	51	56	55	57	59
Hungary	51	51	47	46	55	54	54	51	48	45	46
Latvia	50	45	43	42	49	53	55	56	57	58	58
Slovakia	50	45	43	40	46	47	50	51	51	50	50
Lithuania	46	49	50	48	54	57	58	59	59	59	59
Poland	46	50	53	55	58	60	61	63	62	60	60
Croatia	**44**	**41**	**41**	**40**	**46**	**48**	**48**	**51**	**49**	**49**	**48**
Romania	38	38	37	36	44	43	43	46	48	48	47
Bulgaria	36	38	36	33	41	41	43	41	41	43	42

Notice: higher index signifies lower level of perceived corruption
Source: Transparency International.

What can be concluded from Table 6, regarding Croatia is that, Croatia has been and still is at the very bottom of Europe. The question remains whether and how high level of corruption is affecting economic development of Slavonia.

Changes in GDP from 2000 to 2016 for Croatia and two most eastern Croatian counties can be seen in Table 8.

Table 8: GDP dynamics from 2000 to 2016

Croatia 2000-2016	Corruption Perception Index (CPI)	GDP per capita (US $) Constant prices	Ø GDP EU (US $)	GDP Croatia EU28 = 100	GDP Osijek Baranja County EU28=100	GDP Vukovar Srijem County EU28=100	GDP Town Zagreb EU28=100
Croatia 16	49	12367	20.274	61,0	48.2	35.8	80,5
Croatia 15	51	11779	19.830	59.4	46.5	34.4	83,1
Croatia 14	48	13611	23.148	58.8	45.9	33.4	85,1
Croatia 13	48	13665	22.851	59.8	47.1	34.7	90,8
Croatia 12	46	13249	22.082	60,0	46.6	34.3	93,6
Croatia11	40	14576	24.375	59.8	47.1	35,0	98,2
Croatia 10	41	13550	22.811	59.4	46.2	34.2	103,6
Croatia 09	41	14159	22.800	62.1	50.9	38,0	107,3
Croatia08	44	15892	25.225	63,0	52,0	39,0	111,3
Croatia 07	41	13550	22.177	61.1	50.4	36.4	109,5
Croatia 06	34	11348	19.465	58.3	45.3	36.7	109,8
Croatia 05	34	10209	18.428	55.4	42.7	32.8	109,1
Croatia 04	35	9355	17.197	54.4	41.6	32.4	108,8
Croatia 03	37	8051	15.105	53.3	40,0	32.5	106,7
Croatia 02	38	6241	12.237	51.0	40.5	31.1	104,9
Croatia 01	39	5410	11.018	49.1	37.7	29.6	105,1
Croatia 00	37	4970	10.164	48.9	38.2	29.4	106,6

Source: WEO

As can be seen from Table 6, over the 17-year period, the GDP per capita in Croatia doubled, which is certainly positive. Positive developments can also be deduced from the share of realized GDP per capita relative to the average of 28 EU economies, and in 2016 Croatia achieved 61% of the EU average. So, if this dynamic were to continue at this pace, Croatia would be at 100% of the EU average in about 50 years, which is certainly very depressing. It should be emphasized that the Croatian structural index is based on the good results of Zagreb, which since 2006 exceeds the European average and maintains it continuously in the range of 4-11% higher than the EU average. The Osijek-Baranja County with 48.2% and Vukovar-Srijem County with 35.8% of the EUas average in 2016 are among the least developed counties in Croatia. The growth dynamics of the Osijek-Baranja and Vukovar-Srijem counties, if they were to continue at this pace in the future, would hardly ever reach the European average.

Considering the correlation between corruption and economic growth, it can be concluded that in Croatia is present, so called "East Asian paradox" as researched by Rock and Bonnett (2004), which predicates that economic growth depends on the development of corruption. That is, when the central government is inefficient, it becomes the main reason for the negative effect of corruption on economic growth, as stated by Mo, Méon and Sekkat (2005). In other words, the level of institutional quality bares the biggest influence in respect to the negative impact of corruption on economic growth, as pointed out by Aidt, Dutta and Sena (2008).

In order to further discuss influence of corruption on economic development of Slavonia we have conducted regression analysis on Croatia as well on two most eastern Croatian Counties, namely Osijek-Baranja County and Vukovar-Srijem County.

Table 9: Regression Results Corruption and GDP per Capita in Croatia 2000 – 2016

Variable	Descriptive Statistics				
	Valid N	Mean	Minimum	Maximum	Std. Dev.
Corruption Perception Index (CPI)	17	41,35	34,000	51,00	5,442
GDP per capita (US $) Constant prices	17	11293,06	4970,000	15892,00	3373,641

Dependent: GDP per Capita R = 0,51262300; F = 5,346773; R2= 0,26278234; df = 1,15No. of cases: 17; AdjustedR2= 0,21363450; p = 0,035372; Standard error of estimate:2991,6522390; Intercept: -1847,931604; Std.Error: 5729,192; t(15) = -0,3225; p = 0,7515; CPI b*=0,513

As shown by the correlation coefficient (0.513), the lower the corruption, expressed in the higher CPI, the higher the GDP per capita, and this correlation is relatively strong over the observed period of 17 years.

Exhibit 3: Corruption and GDP per capita in Croatia (2000 – 2016)

Corruption and GDP per Capita in Croatia
Y = 32,0142+0,0008*x
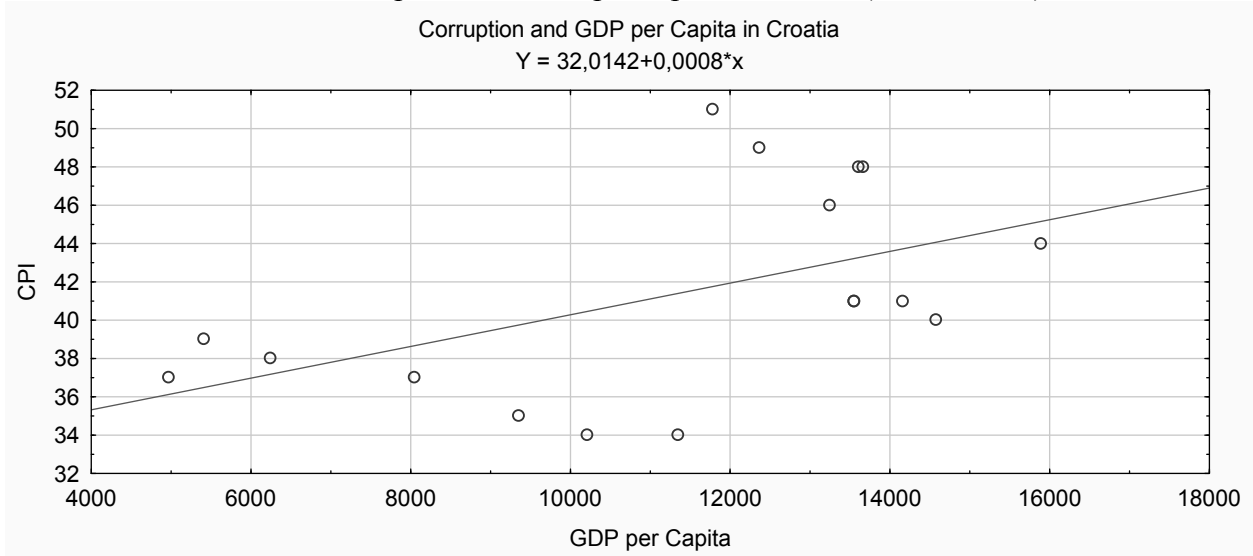
Source: authors

The results for Osijek Baranja County are slightly higher than results for whole Croatia.

Table 10: Regression Results Corruption in Croatia and Osijek Baranja County EU28=100

Variable	Descriptive Statistics				
	Valid N	Mean	Minimum	Maximum	Std.Dev.
Corruption	17	41,35294	34,00000	51,00000	5,442210
Osijek Baranja County EU28=100	17	45,11176	37,70000	52,00000	4,334438

Dependent: GDP Osijek Baranja County; EU28=100; R = 0,52336384; F = 5,658588; R2= 0,27390971; df = 1,15; No. of cases: 17; Adjusted R2= 0,22550369; p = 0,031087; Standard error of estimate: 3,814542635; Intercept: 27,874528302; Std.Error: 7,305076; t(15) = 3,8158; p = 0,0017; CPI b*=0,523

As shown by the correlation coefficient (0.523), the lower the corruption, expressed in the higher CPI, the increase in GDP per capita is achieved, and this correlation is relatively strong over the observed period of 17 years.

Exhibit 4: Corruption and GDP per capita in Osijek Baranja County (2000 – 2016)

Corruption and % Osijek Baranya County EU28=100
Y = 11,709+0,6571*x
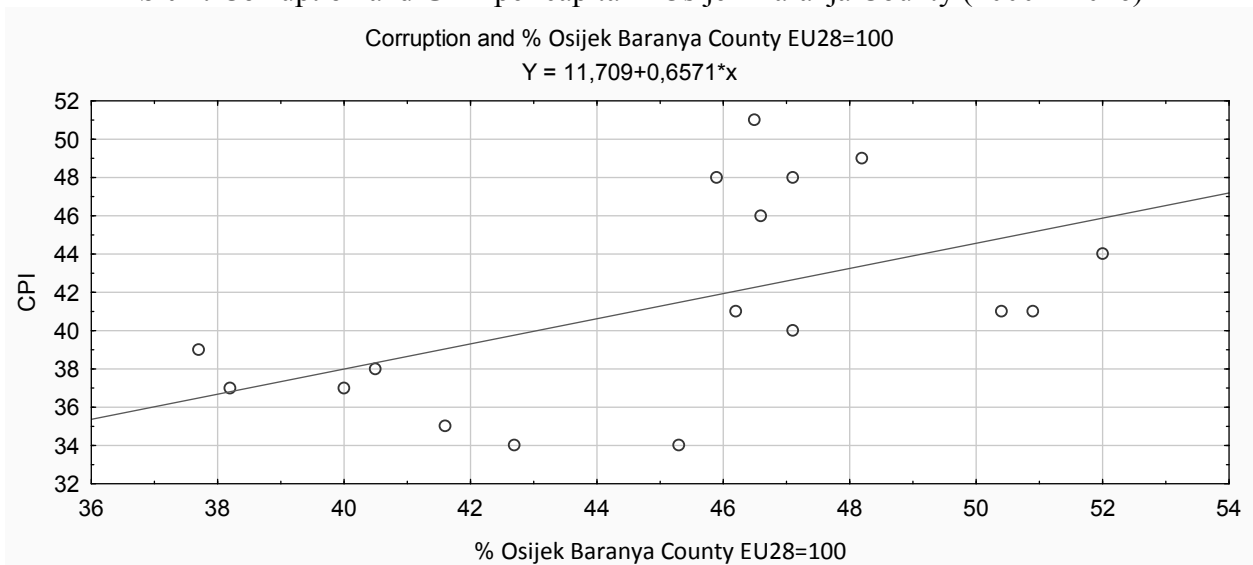
Source: authors

Finally regression results for Vukovar Srijem County show somewhat lower results than Croatian average.

Table 11: Regression Results Corruption and % Vukovar Srijem County EU28=100

Variable	Descriptive Statistics				
	Valid N	Mean	Minimum	Maximum	Std.Dev.
CPI	17	41,35294	34,00000	51,00000	5,442210
% Vukovar Srijem County EU28=100	17	34,10000	29,40000	39,00000	2,674416

Dependent: GDP Vukovar Srijem County; EU28=100; R = 0,32206021; F = 1,735893; R2= 0,10372278; df = 1,15; No. of cases: 17; Adjusted R2= 0,04397096; p = 0,207430; Standard error of estimate: 2,614956536; Intercept: 27,555188679; Std.Error: 5,007797; t (15) = 5,5025; p = 0,0001; CPI b*=0,322

As shown by the correlation coefficient (0.322), the lower the corruption shown in the higher CPI, the increase in GDP per capita is achieved, but in the case of Vukovar Srijem County this relationship is relatively weak, especially in comparison with Croatia and Osijek Baranja County.

Exhibit 5: Corruption and GDP per capita in Vukovar Srijem County (2000 – 2016)
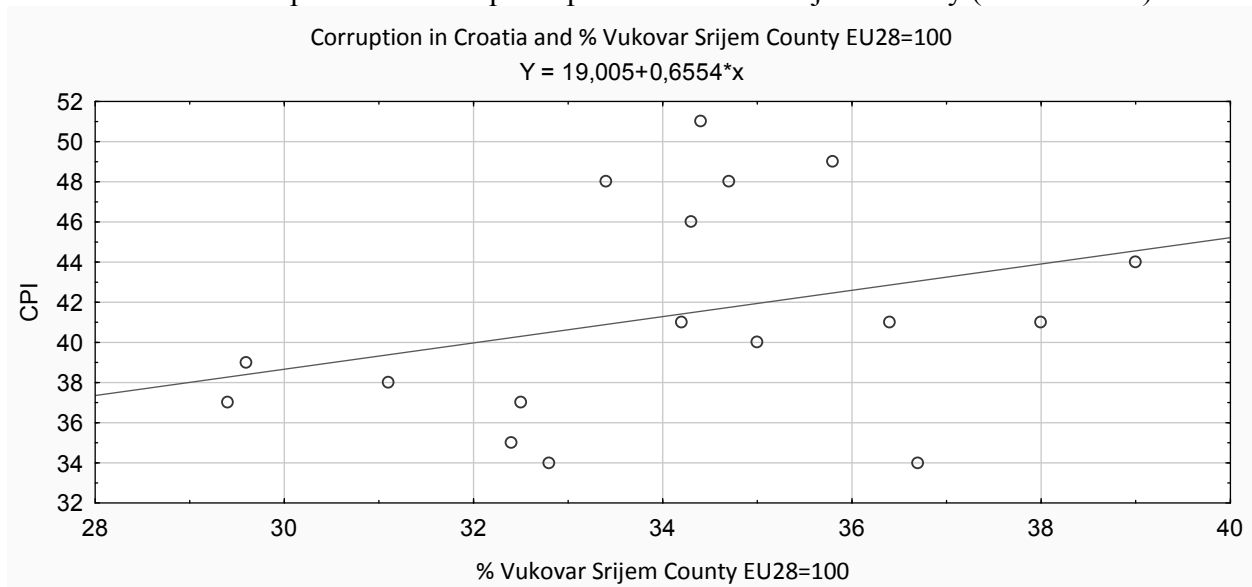
Source: authors

From the presented research we can conclude that there is a high degree of correlation between corruption and GDP per capita growth in Croatia and Croatian counties. Yet, as the regression results show, corruption has a greater impact on GDP per capita in larger cities and counties, as opposed to smaller ones. Nevertheless, regardless of the differences in the degree of impact of corruption on GDP per capita, it is a significant impediment to the economic development of Slavonia.So, it is necessary to make very clear and dynamic changes in the whole national economic system, which unfortunately still do not exist, especially in the area of local government.

4. Conclusion

From all of the above, several important conclusions can be drawn regarding the condition and perspective of Slavonia, seen in the connection between the four key elements of entrepreneurial development.

Firstly, GDP growth in the eastern Croatian counties, with the leading cities of Vukovar and Osijek, is ongoing, but compared to the EU average, this dynamics is very slow, i.e. the Osijek-Baranja County would reach the European level in about 55 years, and the Vukovar-Srijem region never. Croatia, as a whole, so the Adriatic and Continental counties would reach the European average in 50-60 years.

The cities of Osijek and Vukovar are unable to provide sustainable development dynamics, at least not within the sustainable development of European cities, because they are too small. The city of Zagreb, from that perspective, is the only Croatian city that can provide the appropriate dynamics of sustainable development, given its size.

Corruption in Croatia, viewed through the Transparency International (TI) Index (IPK), is gradually decreasing, which is certainly good. Unfortunately, corruption is observed at the national level, not at the county level, but it can be concluded that corruption, with a low level of county development, has a detrimental effect on their development. Comparison of the movement of the corruption index and the share of the realized GDP in relation to the EU average breaks down to somewhere around 2008 when the corruption index with 44 was the highest in the previous 9 and the next 3 years. This positive effect was also accompanied by GDP relative to the EU average, indicating a high degree of connection between corruption and economic development.

Therefore, it can be concluded that, in the current conditions and in the system of macro-national and county economic plans as well as development modes, Slavonia counties cannot expect accelerated significant development despite their resources. The size of their cities is a very significant factor of limited development. At the same time, corruption occurs as a result of the absence of a macro national and regional economic system, as well as a system of governance and control, which cannot be compensated due to the big number of dysfunctional laws. This should be accompanied by the burden of communist heritage and disempowerment in a market economy, at all levels of government. This is particularly emphasized by the low level of education and suboptimal education system.

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INFLUENCE OF CROWDFUNDING´S INVESTMENT ON COMPANY´S EARNINGS

ABSTRACT

Crowdfunding is one of the emerging alternative forms of financing that directly connects those who have the money to borrow or invest with those who need the funds to finance a particular project. Crowdfunding campaigns work on the principle of collecting smaller individual contributions from a large number of people, i.e. crowd, mostly through the Internet. The result is the total amount of funding. This type of funding can be obtained from friends and family or through appeals using social media, or other alternatives. There is also the question whether crowdfunding companies manage properly in earnings management to influence investors to make proper decisions in allocation of their own capital. The main aim of the article is to examine in more detail crowdfunding as a new and innovative way of financing new projects and to evaluate its main positives and negatives. It also describes the different types of this type of funding and how this form of fundraising is used in the conditions of the Slovak Republic. The article also mentions the most used platforms through which donations are made. In the article, the analysis of the given issue was used, as well as a method of comparing the advantages and disadvantages of the method of financing. The result is to find the main benefits and shortcomings of crowdfunding, which is still not so spread possibility of obtaining funds in the Slovak Republic. The article also provides an overview of the most commonly used platforms in the funding area and selects the most appropriate option. The impact of crowdfunding on the proper functioning of the company, on revenues and costs is also assessed.

Key words: *Crowdfunding, Crowdfunding platforms, Investors, Earnings.*

1. Introduction

Crowdsourcing is a process of engaging a crowd of people to achieve the same goal, for example, to achieve some money. The word was created by combining the words 'crowd' and 'outsourcing'. In the modern conditions of economic, social, and cultural integration there are new ways of communication, logistics, getting investment, and outsourcing operations (Alexandrova, 2018). The purpose of this process is to divide the work between the crowds of workers who are knowledgeable in different areas. The biggest advantages of crowdsourcing are the relatively low cost but high possibility of the results, as more people are involved in the solution.

Haltofová (2015) understands crowdsourcing as "organized activity taking place in a virtual environment that use collective intelligence - the ability of a group of people to find a better

solution to a given problem than an individual by usage of modern information and communication technologies." Even though most publications is connected with technological development and development of information technology, but some authors believe that crowdsourcing worked long ago, but at this time we know only its modern form.

Crowdfunding first appeared in the United States when famous Boston musician and programmer Brian Camelio created ArtistShare. It was the first possibility for donors, music fans to provide money funds for producing albums and recordings. The first project created on this domain was a jazz album made by Maria Schneider. The entire funding of the project was graduated and contributors were rewarded accordingly for their contributions. For example, only $ 10 was enough to make a contribution and contributors were able to download an album as soon as it was released. The most generous fan, who contributed $ 10,000, achieve the position of executive producer (Freedman, 2015).

Crowdfunding can also be defined as a collective effort by multiple willing individuals. The whole life of the projects and their financing is carried out via the Internet. Individual projects are funded by small contributions from a large number of individuals (Buyesere, 2012).

Crowdfunding involves cooperation of three subjects:
- Crowdfunding platform or its operator - it is an entity that creates and operates a platform. It connects the demand for funding a project with people who are willing to provide funding for that purpose. Supporters may decide which project they wish to support financially. The Crowdfunding platform generally works on an online basis and usually provides a payment interface. It offers these services on its own or through third parties. The operator determines the operating conditions of the platform.
- Supporters, respectively investors - these are individuals who individually provide a relatively low amount of funds to collect a predetermined amount of money to support the financing of a project. It is important that managers of companies are able to delegate risk of every investment because risk management provides fewer negative surprises, greater financial stability as well as enhanced enterprise performance (Hudakova, Masar, Luskova, Patak, 2018). The investment attractiveness is very important for investors because they try to achieve the maximum financial benefits at an acceptable level of investment risk. These financial benefits can be attained through the participation in company's net profit as well as the capital gains achieved as a result of increase in the market value of company (Pieloch-Babiarz, 2017). Banks usually use determinants or requirements, which companies have to achieve, for example credit requirements, reducing the loan to value ratio, limit on the indicator of the ability to repay the loan, indicator of total indebtedness to overall income of household (Gavurova, Belas, Kocisova, Dapkus, Bartkute, 2017).
- Project owners - these are people who ask supporters to fund their projects (Narodna banka Slovenska, 2020).

Figure 1: Crowdfunding process
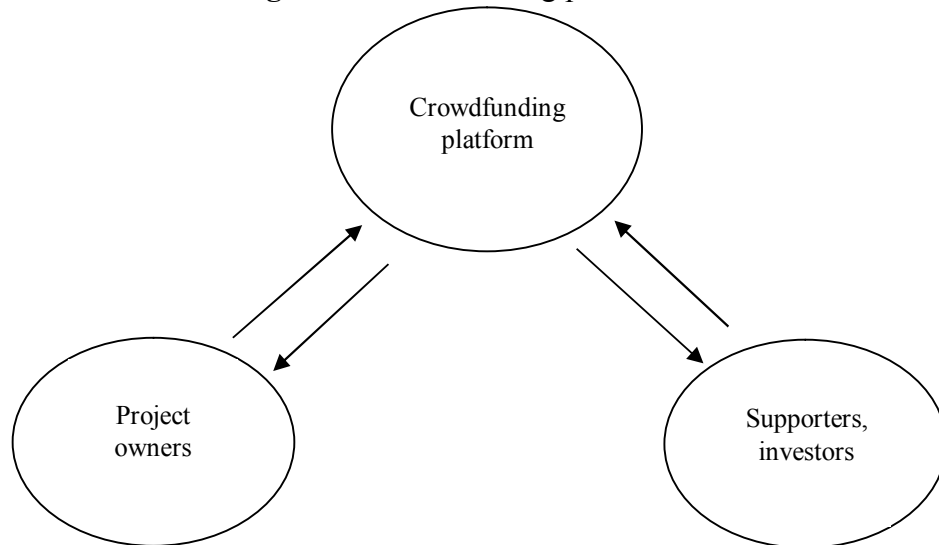
Source: National Bank of Slovakia, 2020

2. Methodology

The article is focused on the evaluation of crowdfunding as the new form of financing companies. In this article, analysis method was applied. There is also examination of individual subjects participating in the crowdfunding process as well as individual crowdfunding methods and platforms. The analysis uses information from scientific articles contained in the Web of Science Core Collection, conference articles, books as well as publications and articles from various economic journals. The reason for choosing this topic is its timeliness and its increasingly practical application. A lot of companies try to find new finances and they try to attract new investors by usage crowdfunding platforms. On the other hand crowdfunding is way how to increase earns of individual companies.

3. Models of crowdfunding

In general it is possible to distinguish two basic models of crowdfunding. There are non-financial return crowdfunding models which are supported by individuals because of emotional aspects of the campaign (donation-based) or they receive a symbolic award (reward model), which is not proportionate to the actual donation. The main advantages can be attraction of first customers and then fast feedback.

Donation-based crowdfunding means that the contributor donates funds to meet a specific objective, while he do not expect any reward. The real reward for a donor is the good feeling of supporting a charity project (Bin, Leo, Dar-Hsin Chen, and Shali Hasanatunnisa, 2018). This form is most commonly used in charity, as a help during disasters, famine or as a support for educational programs. GoFundMe and JustGiving are among the largest platforms. In 2015, more than $ 2.85 billion was donated worldwide.

Reward-based crowdfunding is connected with anticipation of a reward, which can have, for example, the form of a discount or even free CD, DVD, performance tickets or other services, but never financial rewards. Kickstarter and Indiegogo are the most successful platforms in this model. Since its launch in 2009 until April 2017, more than 123,000 projects have been funded through Kickstarter, with the promise of nearly $ 3 billion.

Financial return crowdfunding models provide an opportunity for the public to invest in start-ups or to offer loans with the expectation of a financial return. They are also connected with some level of risks. Crowdfunding banking institutions can be defined as financial intermediaries, which take deposits from entities with excess liquidity and they provide these resources to the deficient entities, for example loans, but it is much harder to get some money from banks (Balcerzak, Kliestik, Streimikiene, Smrcka, 2017).

Lending-based crowdfunding P2P – Peer to peer is the fastest growing type with up to 73% market share. A person lends money to individuals or companies for interest. Although there are platforms focused exclusively on socially oriented loans, most of them operate as commercial platforms in direct competition with other financial intermediaries (The United Nations Development Programme, 2020).

Equity-based crowdfunding model can be considered as the most complicated and it is recommended obtaining professional legal advice if we decide to use this form of funding. It is understandable that this form is the least popular, because the contributor has no 100% ownership of the project (Buckingham, 2015).

3.1.   Advantages and disadvantages of crowdfunding

Crowdfunding as a new innovative way of financing brings many advantages and disadvantages for contributors but also for recipients. The biggest advantages of crowdfunding are:

- minimal financial risk - the most of the crowdfunding platforms do not pay for publishing a campaign. Because of it there is only a small percentage of successful projects. This procedure also has its risks, because contributors can choose which project is succesfull and which is interesting for supporting. When they recognize that prject was unsucessfull in the future they do not support it now. Also bank loans are usually not traded and in addition, the bank's privacy policy may also be a difficulty in data collecting (Valaskova, Kramarova, Kollar, 2015),
- market research, market valuation, reduction of market costs, wide reach,
- flexibility and speed of fundraising, easier and cheaper access to financial resources, reduction of dependence on traditional forms of financing,
- feedback, advice, or other crowd resources (such as networking, crowdsourcing) (European commission, 2013).

According to Manchanda and Muralidharan the biggest drawback of crowdfunding is the limited amount of money in this source of funding. The disadvantage of crowdfunding is the fear of losing confidence (sharing the idea with many people) and the risk of theft and realization of the idea. The other disadvantage is that you have to spend a lot of time and effort to promote the idea with campaigns and advertising (Manchanda, Muralidharan 2014).

Investors usually want to participate in crowdfunding ventures. It is because they gain access to new products before they are widely commercialised, to new investment opportunities; and they can meet new investors. But for these investors crowdfunding could bring some risks, for example frauds, incompetence, lack of efficient secondary market for equity-based crowdfunding, taxation and regulations. In many countries, tax relief depends on whether companies finance their research and development through earnings, equity or debt. These diverging tax treatments may influence the demand for funds, how crowdfunding evolves, and how investors as well as fund-seekers frame their campaigns. So we think that crowdfunding could influence company´s earning, because when investor choose any company and put money in it, company could use them for making product, providing

services and it could earn money. On the other hand when company want to find new investors, they use earnings management, they try to adjust their financial statements to persuade them (Gabison, 2015).

At this time it's possible that more and more companies would like to use crowdfunding and because of it there is an increasing number of nonprofessional investors. Less sophisticated investors are more likely to trade on pro forma earnings, they exclude some expenditures which could influence future profitability. Nonprofessional investors are more likely to overestimate the persistence of earnings due to their lesser ability to adjust for lower persistence of the accrual component of earnings (Frederickson, Miller, 2014).

4. Crowdfunding in Slovakia and abroad

The following subchapter summarizes the best known and most widely used platforms in the world and in Slovakia.

Kickstarter is the most famous platform in the world, which has been fighting with its biggest competitor - IndieGoGo platform for many years. Kickstarter is a very specific platform, and although it is one of the world leaders in the crowdfunding, its rules are significantly stricter than the rules of other platforms. It works on the principle of "all or nothing", which means that if a sufficient amount of funds is not collected within a set period of time, the author of the project is not entitled to the collected the money and money are returned to the contributors, reduced by bank charges (Kickstarter, 2020).

IndieGoGo is also very popular platforms in the world. IndieGoGo operates globally, thus breaking international barriers. Unlike Kickstarter, the advantage of this platform is especially the larger portfolio of services offered by the site and also easier conditions for publishing the project. Although on the one hand we can take this as an advantage, many sources say that this is the reason for the high percentage of failed projects on IndieGoGo. The difference is also connected with a greater selection of categories. The most fundamental difference is seen mainly in flexible funding, which means that even if the set amount of money for the implementation of the project is not reached, the author receives the campaign and does not return to the contributor (IndieGoGo, 2020).

In the last years, there has been a significant increase of start-up investment in Slovakia. There are a lot of funds, investors, incubator and co-working platforms and business angels in the Slovak start-up community. Every comoany has an economic and moral responsibility to its stockholders - investors etc. to perform well financially (Kliestik, Misankova, Valaskova, Svabova, 2018). Previously, Slovak start-ups and businesses preferred to use well-established foreign Crowdfunding platforms, for example Kickstarter or Indiegogo. Nowadays there are some platforms in Slovakia and most of them are focused on charitable activities and still only a few of them have potential to positively impact the business. Some well know crowdfunding platforms operated in Slovakia are Crowdberry, Conda Crowdinvesting, Yellow Melon, Zinc Euro, HitHit, Startovac, Marmelada, Dakujeme, etc.

Ideasstarter.com can be considered as the first Slovak crowdfunding platform. It was created on December 11, 2013, when the campaign duration was from 1 to 3 months and it worked on all-or-nothing principle. It is successful because this platform claimed 8% amount of money has to be collected. However, this platform no longer exists and we were unable to detect the reason why there was the finishing of its activities. The last activity of the creators of this platform was on social network in 2015. There have not been seen any other activity since then. We consider that it was because ideasstarter.com was focused on projects with

innovative character and they not meet the conditions defined by us for crowdfunding (Mikula, 2013).

StartLab is the most promising Slovak platform, which was established in 2015 in response to the absence of Slovak crowdfunding sites, or it is the reaction to positive experience with public benefit projects such as. Ludududom.sk, Darujme.sk. At that time, the most famous Slovak platform - marmelada.sk, appeared on the crowdfunding scene, which managed to stay on the crowdfunding market for only 30 months and it does not exist anymore (Startlab, 2018).

Crowdberry is very successful crowdfunding platforms in Slovakia. From traditional platforms that have model-based projects based on rewards or charity projects, Crowdberry is different. It provides space for projects that offer a share of business ownership. The crowdfunding investment model enjoys growing popularity. Visitors can invest in different product lines. It means that different councils have different annual amounts revenues. The least profitable are real estate investments and startups are the most profitable (Crowdberry, 2020).

Yellow Melon is a collective lending portal that allows people to get a loan with more favorable terms or to raise their money much higher. The platform was established in Slovakia in 2012. It is run by people with severe experience in managing financial products, credit risk assessment, lending, IT security and marketing. Yellow Melon provides loan auction management and loan processing between investors and borrowers. Company analysts evaluate staff verification and verify each applicant's financial standing and ability to repay future monthly installments. The platform assigns a credit rating to each borrower to differentiate interest rates. The platform helps investors to diversify and manage the level of risk, monitors loan repayment. Nowadays there is the problem of insolvency in Slovak Republic, because insolvency of four companies of ten companies is due to the delay or any payment of their receivables (Siekelova, Kollar, Weissova, 2015).

4.1.   Yellow melon statistics

The following chart shows the development of approved applications and loans on the Yellow Melon platform.

Chart 1: Development of applications and loans on the Yellow Melon platform
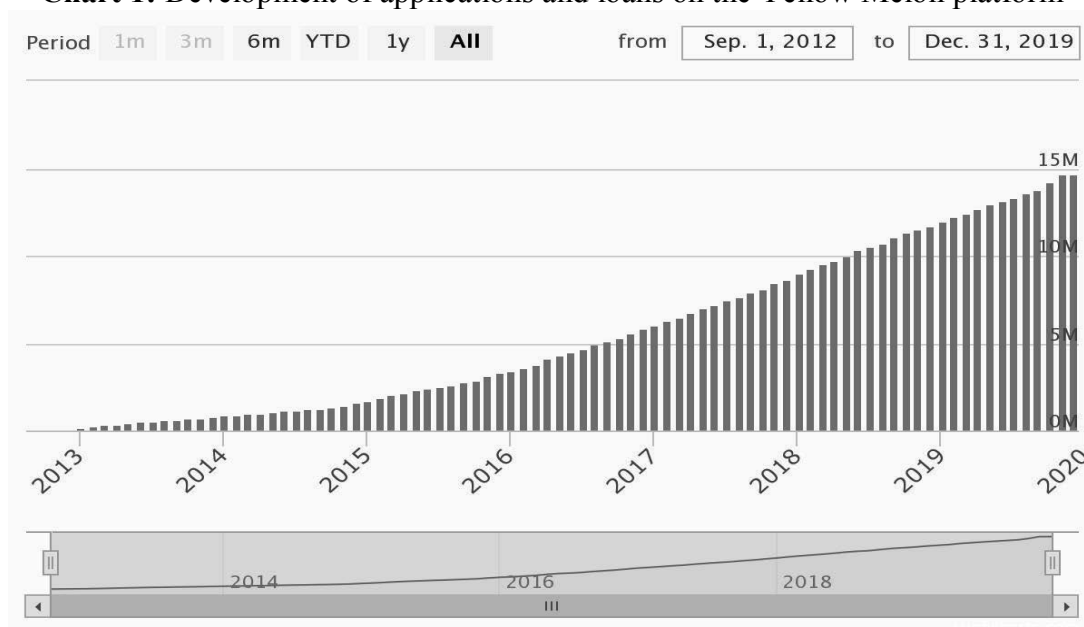
Source: Yellow Melon, 2020

Chart focuses on assessing of development and lending under the conditions of the Slovak Republic using the Yellow melon platform. The time period that the graph focuses on is from 1 September 2012 to 31 December 2019. The reason for choosing this time period was the creation of the platform in 2012. During the whole monitored period it is possible to see positive development of this platform. In October 2012, the total value of loans was € 20,655 and in December 2019 the total value of loans exceeded € 14,647,661. This means that there is an increasing interest in the financing of companies by using crowdfunding financing in the Slovak Republic.

5. Conclusion

Crowdfunding is an innovative way of getting financial support for various projects or business. It is basically a collection where people contribute more or less to your project or start an interesting business idea. The article briefly describes the process of fundraising and describes the individual entities participating in this process of fundraising. The most important subject of crowdfunding process are investors or supporters, project owners and these two subject meet together by usage of crowdfunding platform.

The next section briefly summarizes monolithic crowdfunding models. We know two main groups of crowdfunding model which are non-financial return crowdfunding models and financial return crowdfunding models. There are some differences between them. In the first mentioned models, investors do not expect any return on their investment, or investors will only recover some symbolic award. On the other hand, financial return crowdfunding models are linked to the financial return on investment, and investors in these crowdfunding models must know that there is also some level of risk in the investment.

In the article there are mentioned some advantages of crowdfunding. We think that the main advantages of crowdfunding are minimal financial risk, valuation, reduction of market costs, flexibility and speed of fundraising, easier and cheaper access to financial resources, reduction of dependence on traditional forms of financing. There are also some disadvantages, for example investment is connected with some risks, like frauds, taxation, and regulation.

In the last part we focused on platforms that are used both in Slovakia and abroad. In abroad we know platforms like Kickstarter, IndieGoGo. The most used crowdfunding platforms in Slovakia are Crowdberry, Conda Crowdinvesting or Yellow melon. Article also describes development of this platform Yellow Melon in Slovakia.

Nowadays crowdfunding can be used for various business areas, for example it can be the production of various kinds of interesting foods or spirits, the production of clothing and new technologies. New money, which company can earn by usage crowdfunding, are important for its future existence, for innovation of product and services and also for expanding of company. In the future research, we would like to look at a deeper analysis of fundraising through Crowdfuding, or to compare the use of this method of financing with other countries, such as the Visegrad countries.

Acknowledgement :

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A professional paper

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SOCIAL ENTREPRENEURSHIP AS METHODOLOGY FOR SKILLS IMPROVEMENT ON HIGHER EDUCATION STUDENTS

ABSTRACT

Society lives periods of constant change coming from the ongoing digital transformation. In this context, several questions arise: What consequences will technological developments have on employment, security, privacy and democracy itself? What implications will they have on the nature and distribution of work among and throughout life and, for each one, in their relationship with leisure? How to preserve and implement ethical principles related to its numerous social and economic implications? We are dealing with issues that are not only addressed by education but have much more widespread effects on society. Nevertheless, for education those issues are especially relevant, as education is a privileged instrument to guide change. Changes create instability and uncertainty, but also introduce new possibilities, new challenges, new perspectives, new issues and new solutions. How can Higher Education respond to these challenges? What teaching models can they implement? What teaching, learning and research strategies can be developed to answer the set of emerging skills? In this sense, the purpose of this article is to promote the role that Higher Education Institutions should play, specifically in the promotion of social entrepreneurship. This paper presents a project of digital competencies, developed with students through volunteering, among local and national partners' network and directed to communities inserted in disadvantaged socioeconomic contexts. With this example we intend to share an active methodology of teaching and learning of IPCA, a Portuguese Higher Education Institution that aims to contribute in a more complete and adjusted training to the challenges of the labour market.

Key words: *competitiveness, higher education, skills, social entrepreneurship, society.*

1. Introduction

The Fourth Industrial Revolution is not only the revolution of mass digitization, the Internet of Things, the machine learning and robotization but it also involves nanotechnology, new materials and biotechnology which mean fusing technologies with the physical, digital and biological worlds. Successful industrial revolutions originated an enormous level of

mankind's prosperity and trigger profound social changes. However, will these revolutions be able to maintain humanity's current levels of prosperity?

At this level, Higher Education Institutions (HEI) have an important role to play, particularly in preparing their students to meet the challenges of new jobs and economic contexts. According to the World Economic Forum report, "The Future of Jobs Report 2018", in 2022 the ideal worker must have a set of skills including complex problem solving, critical thinking, social and emotional intelligence, creativity and initiative.

Innovation is a buzz word linked with the new technological era supported by creativity and the digital world. New ways of learning are required and with more focus on "knowing to be" complementing the "know how". HEI faces challenges and must introduce new teaching and learning methodologies in order to produce more active citizens, to be able to find solutions for society and economic needs and to add value to mankind by having in mind the sustainable development goals.

This paper aims to present and describe a project of digital competencies, developed among local and national partners' network, focused on disadvantaged socioeconomic community contexts. The project was developed within the scope of the Curricular Units of the Tourism Management graduation, allowing the students, through voluntary actions, to develop emerging and entrepreneurial competences.

After this introduction, Section 2 presents a brief theoretical framework on the subject. Section 3 brings foreword the environment where the project is developed. The methodology is discussed on Section 4 and, finally, Section 5 presents the Discussion.

2. Theoretical Background

2.1. Fourth Industrial Revolution and desired skills

The Fourth Industrial Revolution impacts are higher than ever and distinctive in speed, scope, and systems collision. The speed of current breakthroughs has no historical precedent. The pace is rather exponential than linear, it is disrupting almost every industry in every country and modifying entire systems of production, management, and governance. Like the revolutions that preceded it, the potential to raise global income levels and improve the quality of life for populations around the world is a solid reality. In the future, technological innovation will also lead to a supply-side miracle, with long-term gains in efficiency and productivity (Schwab, 2016).

However, there are many concerns that technological innovation will lead to increased unemployment, suppressed wages and greater inequality. The impact of the Fourth Industrial Revolution will also be reflected on economic, legal, regulatory and socio-political questions. These changes demand proactive roles from government policies and institutions at local, national and global level. Governments as well as the United Nations can and should influence these processes (Bruckner, LaFleur, & Pitterle, 2017). A right policy combination and institutional arrangements can ensure that the benefits of innovation are broadly shared, an essential step for achieving the desirable Sustainable Development Goals (Brynjolfsson & McAfee, 2014).

The world we live in increasingly relies on digital technologies, so it is important that everyone has the competences to deal with this new reality. The new practices tend to be based online and users normally interact with them through electronic devices. Regarding the active population, learning, productivity and competitiveness are also increasingly dependent

on digital factors, meaning that there is a growing need for digital competences in many different professions.

Digital skills are essential for the full exercise of citizenship (DCE Expert Group, 2017) also acting as a facilitator of employability and answering to the demands of the increasing digitization of the labor market. More qualified population generates new forms of work, new professions, markets and innovative products and, therefore, more robust and competitive economic activities. Digital skills are also important for the development of critical and multifaceted thinking, promoting inclusion, autonomy, well-being and social justice.

The Council of Europe's Competences for Democratic Culture (Council of Europe, 2016) provides the starting point for this approach to digital citizenship. The competences citizens need to acquire if they are to participate effectively in a culture of democracy are not acquired automatically but instead need to be learned and practised (Council of Europe, 2008).

Education has a vital role to play in preparing young people to live as active citizens and helping them acquire the needed skills and competences (OECD, 2018).

Students must be engaged in the learning process, as well as doing meaningful learning activities and think about what they are executing. Prince (2004) defines these instructional methods as "active learning", definition inspired from seed work done by Bonwell & Eisen (1991) and Eison (2010), which has been widely accepted. In a course focused on active learning, students are truly engaged in the learning process. They might be dealing with the course material by working collaboratively on problems. They are constantly processing what they are learning.

Students may look at PowerPoint slides, but they are also discussing or debating questions posed by the teacher/mentor and are asked to critically analyze the information presented. They may search the Internet, but they are looking for data and resources to support their arguments. In some cases, they are exposed to an extensive amount of material outside of class so that most of the in-class time can be devoted to hands-on learning. Active learning is a key aspect of the flipped classroom and can be applied to any learning environment from online to standard lectures or as a blend of these (Dunlosky et al., 2013). The aim of active learning is to provide opportunities for learners to think critically about content through a range of activities that help prepare learners for the challenges of professional situations.

Therefore, it is important to design activities that promote higher order thinking skills such as collaboration, critical thinking and problem-solving. Active learning activities can range from low (simpler) to high stakes (more complex) activities (Innovation Institute for Teaching and Learning, 2018).

2.2. Social Entrepreneurship

The concept of social entrepreneurship appeared around 1983, closely linked with Schumpeter's conception of "non-profit innovative entrepreneurs" (Young, 1983). There is no consensus about its concept (Zahra et.al, 2009), even though it has become a buzz word. On literature review it is possible to find lot of definitions, approaches and different Schools of Thought (Bacq & Janssen, 2011).

However, social entrepreneurship remains an area of interest, cutting across academic disciplines and challenging more conventional assumptions of economic and business development (Dart, 2004). It has a major contribution to social, economic and environmental wealth (Fayolle & Matlay, 2010) and related to social innovation (Zahra et.al, 2009).

The issue is sensitive and represents a mix passion between a social mission with discipline and management, innovation and determination (Dees, 1998). Social enterprises have proven to be longstanding agents of inclusive growth in many European and non-European countries, creating new jobs, including jobs for disadvantaged people, and providing innovative solutions to unresolved socio-economic and / or environmental problems (Campinho, 2020).

However, social enterprises often face lack of recognition and huge difficulties in accessing markets and finance (OECD/EU, 2019), even if social entrepreneurship is receiving greater recognition from the public sector and academy (Nichols, 2006).

Encouraging social entrepreneurship has been on the governments agenda for some time (European Commission, 2013). Academy has also devoted more attention to the topic and many organizations support social entrepreneurship (Bacq & Janssen, 2011).

It is a fact that Government cannot meet its social commitments to society. Social entrepreneurship is needed as it arises as an emerging phenomenon of initiatives and willingness to correct imbalances, as well as to build social change, based on a path of sustainability and development of human potential (Benigno, 2016).

Non-Governmental Organizations (NGOs), entrepreneurial companies, governments and public agencies recognize the strategic importance of social entrepreneurship for the development of competitive services (Christie & Honig, 2006).

Social entrepreneurship may require different assessment standards from of entrepreneurship formats in the broad sense and the requirement for higher support for social legislation and policies (Peredo & Mclean, 2006).

Social entrepreneurs appear as entrepreneurs who: i) recognize necessities, ii) are relentless to pursuit new opportunities to pursue the mission of creating social value and iii) are continuously engaged without acceptance of existing resource limitations (Peredo & McLean, 2006).

Being one of the players in action, social entrepreneurs must be able to deal with problems not only at micro level but also at micro level, in a more versatile way, with much wider vision and aiming social transformation (Bikse, Rivza & Riemere, 2014).

Therefore, nowadays, the concept of entrepreneur is explained in a much wider socio-economic sense. Together with professional training, it provides the development of the human personality as a whole and the development of competencies, including entrepreneurial and social competencies (Bikse & Riemere, 2013).

For all these reasons, education has a crucial role on developing students' abilities and enabling them to produce innovative solutions to social problems. In order to achieve this, student needs to have the opportunity to learn about social entrepreneurship within their formal education. Social entrepreneurship education has many positive effects in terms of individualistic aspect as it gives student a chance to experiment what is taught in the university through their daily lives. Therefore, it makes education lifelong by supporting all developmental areas of human being (Sarıkaya & Coşkun, 2015).

In addition, social entrepreneurship education supports students' self-sufficiency, creativity, empathy, rational thinking, and entrepreneurship skills. Moreover, today's generation of

students represent future leaders and must act in a responsible and ethical way (Dieguez & Fonseca, 2016).

3. Empirical evidence and results

3.1. Methodology and purpose

The study was carried out during 2019 and the methodology is mixed and supported on an active and collaborative teaching-learning method. The main purpose of this work is to present and describe some active learning strategies implemented by the authors, teachers at the Management School of Polytechnic Institute of Cávado and Ave (IPCA), Portugal. The authors are from the Management School and work in all the Schools. They participate in various projects and allow the link between managers, engineers, digital game developers, designers and illustrators.

The present study only relates to their activities on the Management School, at "Management of Human Resource", "Social and Cultural Institutions Management" curricular units, under the scope of "Management of Tourist Activities" (1st Cycle).

3.2. Environment

The Polytechnic Institute of Cávado and Ave (IPCA) was founded in 1994 and began its academic activity in 1996 with 74 students divided by two bachelor courses: Accounting and Public Finances and Accounting, each with 37 students. In the following year, IPCA began its offer of evening courses with evening classes of Accounting.

Although created along with the Management School in 1995, the Technology School began its activity in 2004. That was a turning point in IPCA's history, as it assured its legal nature and autonomy according to the law. In 2009 IPCA created the Research Centre on Accounting and Taxation, Centre recognized by FCT (the national funding agency for science and research in Portugal).

The third school of IPCA, the Design School, was created in 2015 and began its activity with courses that were previously under the Technology School coordination: Graphic Design and Industrial Design as well as Masters in Illustration and Animation and Product Design and Development. In October of 2014, IPCA became one of the first institutions to offer Professional Higher Education Courses, reaching the highest number of students in this new academic offer. As a result, two more campuses were created: in Braga (2014) and in Guimarães (2015).

The fourth school, the Hospitality and Tourism School, was born in 2018 and is Tourism oriented. It will soon have its headquarters in the city of Guimarães.

Today, IPCA has more than 5.000 students and promotes a qualified and distinguished education.

3.3. Interaction

Inserted in an Integrated Initiative for Digital Inclusion (INCoDe.2030), a Portuguese initiative, through the participation on two pilot projects that are being developed in the municipality of Barcelos, the authors explore active teaching / learning methodologies. The main goals are related with the will of equipping students with behavioural and social entrepreneurship skills, making them the catalytic leaders and transformational agents that

effectively add value to organizations, markets, communities and societies, supported on fundamental values such as respect for human dignity and environment.

In this context and through a collaborative work among the teachers, challenges are well defined and presented to the students at the beginning of every school year. With reflection and discussion in class, these challenges are worked out by teams, organized under the tutelage of teachers. Strategies are defined, and actions are programmed to achieve the proposed objectives. Verbal communication and interpersonal skills are trained, meaning students not only develop the ability to communicate between them, but also the willingness to listen people without judging them, share ideas and pitch in when co-workers need help.

With these methodology students are expected to reach the following learning outcomes, namely:
- to approach and understand the strategic management process as an integrating area, emphasizing the importance of aligning change, strategy and performance through the involvement and empowerment of people (employees, partners and civil society;
- to understand the importance of developing sustainable solutions, thereby creating the necessary conditions to rearrange social transformation;
- to identify and apply the entrepreneurship and social innovation life cycle;
- to plan, manage and boost social innovation and volunteer projects into the local community.

Students who have successfully attained the above-mentioned learning outcomes should develop their behavioural entrepreneurship skills, improving: (i) negotiation skills; (ii) conflict management; (iii) leadership; (iv)mcommunication; (v) group dynamics. Also, they should develop social entrepreneurship skills, improving: (i) understanding the meaning of social economy, evolution concept and related dynamics; (ii) developing critical thinking regarding the challenges facing social economy organizations; (iii) understanding and discussing the importance of designing and developing innovative and sustainable solutions to social problems; (iv) knowing tools to support the development of sustainable business models; (v) identify, understand and apply the life cycle of social entrepreneurship; (vi) understand the importance of developing a partnership strategy (networking development), between Government, Private sector and Civil society; (vii) develop critical thinking capacity for measure and evaluate the impacts of social projects in the community.

3.3.1. Portugal INCoDe.2030

Even though Portugal is close to the European median in terms of digital competences it needs to reinforce basic Information and Communication Technologies (ICT) competences, especially in terms of human capital and internet usage levels, preventing them to stay at a worrying threshold. This is also true for specialists, who need to be able to make the most of the growing availability of jobs in the digital market.

With this aim the Portuguese Government's suggested an initiative: "National Digital Competences Initiative e.2030, Portugal INCoDe.2030" that includes a public policy integrated action that aims to stimulate and guarantee the development of competences as tools to help prepare the new generations for the "unknown", investing increasingly in new knowledge and in the capacity to create new jobs - more qualified and better paid - encouraging entrepreneurship in young people.

This initiative addresses the concept of digital competences in a broad manner. It includes the notion of digital literacy (i.e. the ability to access digital media and ICTs, understand and

critically assess contents, and communicate effectively), as well as the production of new knowledge through research. This involves processing information, communicating, and interacting with and producing digital content.

The concept of digital competences is also linked to the use of digital technologies to design new solutions for different types of problems, the integration of interdisciplinary knowledge and data analysis, intensive use of artificial intelligence, the use of advanced instrumentation and communication networks and mobile systems and the development and programming of cyber-physical systems. This involves hardware and software and extends the concept of ICT to electronics, automation and robotics1. Competences can be developed to different levels of depth and proficiency in each of these areas, depending on the level of qualification and set goals. These different levels are reflected in the type of measures that will be promoted in an inclusive and comprehensive way for the whole of society.

To meet the challenges, the Portugal INCoDe.2030 program proposes to carry out a vast set of measures aimed at mobilizing various governmental areas. These measures should be articulated within initiatives from the private sector, the academic sector and civil society with similar objectives. The measures are structured in five axes of action, namely: (axis 1) Inclusion; (axis 2) Education; (axis 3) Qualification; (axis 4) Specialization; and (axis 5) Research.

3.4. Descriptive Results

IPCA as a relevant player in the local community was involved from the first moment on the national initiative under the umbrella of the Portuguese Government. The present study only focus on IPCA's students who, under the units of the authors, actively accepted the challenge and conducted their work on axis 1: Inclusion.

3.4.1. Creative Communities for Digital Inclusion: Barcelos pilot projects (axis 1)

Axis, linked with "Inclusion", aims to ensure that the whole population has equal access to digital technologies to obtain information, communicate, and interact with others.
Thus, to ensure a level of fairness and social cohesion that will lead to balanced and sustainable development, it is essential to raise the population's awareness about the importance of digital competences, specifically by creating resources and content centres and user training campaigns. This must be done while ensuring territorial cohesion, taking into account the need to reinforce the use of broadband services. In order to achieve these objectives, it is critical to strengthen gender equality in terms of access to and development of digital competences, as well as to promote regional approaches, bridging the inequality that still exists in Portugal.
Included in this Axis 1 Inclusion, from INCoDE.2030, Creative Communities for Digital Inclusion (CCID) is an approach to promote digital inclusion, responding to the needs of people and their communities.
Methodologically, CCIDs can fit into participatory approaches along the lines of Stanton (2013) and Genat (2009), which focus on promoting the training and development of local capacity, bringing a reflective dimension into practice. They allow us to reflect on how digital inclusion models can be built in a collaborative way, creating communities of shared knowledge.

IPCA is inserted on The CCID of Barcelos, a digital inclusion project designed for:
- children and young people attending the "Abel Varzim Social Center", in Barcelos (pilot project 1)
- Gypsy women (pilot project 2)

This CCDI aims to develop digital skills and digital literacy among the youngest and a group of gypsy women, as well as instilling in them the importance of education and training for their future through creation of a positive connection with knowledge. To this end, they develop activities around the identity relationship and preservation of the local heritage.

Based on a policy of proximity, sensitive to different contexts and populations in their diversity, these pilot projects aim to try different models of intervention for digital inclusion. The Creative Communities for Digital Inclusion (CCID) are research and action laboratories that articulate different actors in the field, from municipalities, institutions of higher education, companies.

IPCA participates as a partner entity at local level of CCID de Barcelos and integrates networking between different organizations and entities, as well as with the Barcelos City Council and the Abel Varzim Social, Cultural and Recreation Center.

3.4.2. CCDI - Barcelos: Involvement of students as volunteers

It is within the scope of the local partnership "Creative Communities for the Digital Inclusion of Barcelos" that the students of the curricular units of "Management of Social and Cultural Institutions" and "Human Resources Management", from the 3rd year of the degree in Tourism Management, develop the projects as mentors for digital inclusion. The teachers of these curricular units, working in a network, and based on active and collaborative teaching-learning methodologies, seek through the participation of students in the CCDI strategies for students to develop and reinforce their digital competencies in order to face the challenges of the revolution 4.0.

The students' participation in this project is structured in the following phases:
- phase 1: definition, structure and planning of student´s participation on CCID Barcelos pilot projects (from September to December 2018);
- phase 2: awareness and identification of students to be involved in this project (January and February 2019);
- phase 3: students training on "mentoring for digital inclusion" (March 2019):
- phase 4: students' inclusion on the pilot projects (April 2019);
- phase 5: volunteering - mentors o the CCID Barcelos pilot projects (April to July 2019);
- phase 6: evaluation (in process).

The 15 selected students to participate in these projects have completed the following modules:
- digital inclusion and benchmarking of digital competence (2h)
- mentoring for Digital Inclusion: pedagogical strategies. (4h)
- emotional recognition, communication and social interaction (4h)
- use of the internet, applications / services and social networks: confidence, security and risk (4h)
- Intercultural skills, ethnic minorities, refugees and migrants (2h).

This training is certified by the Faculty of Psychology and Educational Sciences of Porto University.

3.5. Discussion

Based on the active methodologies of teaching / learning defined and collaboratively worked among the authors and students, the obtained results and the knowledge absorption for all involved players seem to clearly evidence something. It demonstrates that this kind of projects and methods enhances opportunities for learners to critically think about contents through a range of activities, that help prepare them for the challenges of professional situations, personal lives and citizenship activities.

With this kind of projects, students were able to plan, manage and dynamize social innovation and volunteer projects into the local community. They were challenged to play a role, to "act out" and doing. Therefore, students who were accepted to be part of a Lab, strictly focused on the common well-being, which gave both students and teachers the opportunity to create a better idea of the discussed concepts and theories in classes.

Students when asked what, in their opinion, was the added value for being active in this project, unanimously confessed that it has been a great experience. They also reported it made them feel more conscious about the others and their impact on others lives. As main contribute, students also said that with this kind of projects it was easier and faster to learn, as they were very motivated and committed. Furthermore, students felt that this project improved their human capabilities, like persuasion, social understanding, altruism and empathy.

For teachers, when critically thinking and reflecting about the project and the process, they also manifest great happiness for being sure that their students grew in relevant knowledge for their future careers and present characteristics as human beings.

Regarding the community where students actuated, it is easy to understand how important for them is having people that cared. They also felt teachers were truly interested in teaching and making them feel more comfortable and included in what concerns digital transformation and technologies.

For IPCA's relationship and networking with local authorities and Government, the project seems to be an added value, as it strengths networking and helps to make region more developed, included and more prepared to present and near challenges.

4. Conclusion

In an era dominated by digital transformation, complexity, unpredictability and interdependence, active learning seems to be a key aspect of the flipped classroom and can be applied to any learning environment. This paper presents one of the various projects that have being developed between the authors and the students, within the scope of studying the contents of the curricular units where management, entrepreneurship, volunteering and social innovation are presented.

In the classroom context, and starting from a theoretical study of the subjects under reflection, teachers use expository methodologies and stimulate students' research through identified community problems and needs that must be solved. Students were challenged to work closer near their context. By knowing the reality, students were more able and apt to identify other problems that can be solved by IPCA's community.

All the identified challenges are worked and planed in the classroom context (both in groups and in class). After conclusion of the project, students were encouraged to self-assess in order

to evaluate and remark the acquired skills both from an academic and technical point of view, as well as from an active citizen's perspective.

Through these active teaching and learning methodologies, in addition to improving theoretical knowledge about the units' curricular content, it was possible to develop and improve student's behavioral and social entrepreneurship skills considered very important for their work and social future. Additionally, it is important to notice that they also diminish the gap between IPCA´s community and community itself: the community comes closer to IPCA and IPCA gets closer to community.

Nowadays, the world is facing a health related pandemic with serious implications on economy and society. Technology is being used to communicate delivery and find solutions for serious problem, despite the restrictions and fear that is lived. Opportunities can be faced and ICTs will be a changing driver. The nearest needed skills on market workplace are emotional intelligence, critical thinking and problem solving. A learning environment where students and teachers can reflect and experience about the world and their potential impact on it, surely makes difference. Leaders of tomorrow are the students of today.

For further studies it will be interesting to understand what the students involved on this project did with the developed skills. Also, it could be interesting to understand how they could be involved to continue working in these areas, as mentors for new students, not only from the School of Management, but also from the other three Schools that are part of IPCA.

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FINANCIAL PERFORMANCE EVALUATION OF TRADING COMPANIES IN SERBIA USING THE INTEGRATED FUZZY AHP-TOPSIS APPROACH

ABSTRACT

The issue of evaluating the financial performance of trading companies is continuously relevant and highly complex. Multi-criteria decision making has been increasingly applied in this area. Taking this into consideration, the paper analyzes the financial performance of trading companies in Serbia using the integrated fuzzy AHP-TOPSIS method. According to the research results, among the observed criteria (employees' salaries, assets, capital, sales, and net profit) the most important ones are the sales and employees' salaries, respectively. In the observed period (2013-2018), the best financial performance was recorded in 2017. A number of micro- and macro-factors contributed positively to this result.

Key words: *employees' salaries, assets, capital, sales, profit, fuzzy AHP-TOPSIS method.*

1. Introduction

Multi-criteria decision making has been increasingly used to evaluate the financial performance of trading companies with as much accuracy as possible. Taking this into consideration, the paper examines the financial performance of trading companies in Serbia through through an approach that combines the fuzzy AHP and the TOPSIS methods. The aim is to propose adequate measures for improving, which must be constantly monitored, to achieve the goal of their financial performance in the future.

There is abundant literature on the financial performance analysis in general and the application of the fuzzy AHP-TOPSIS method (primarily in the manufacturing and financial sectors) e.g. Iran (Ghadikolaei et al, 2014) or Turkey (Büyüközkan et al., 2004; Üçüncü, et al., 2018). However,

very few studies in the extant literature examine the application of the fuzzy AHP-TOPSIS method in evaluating the financial performance of trading companies (Keener, 2013; Martino et al. 2017). This is especially true of the research published in Serbia. To the best of our knowledge, apart from incomplete consideration in some papers dealing with efficiency measurement and cost management, there are no papers that provide a comprehensive examination of the application of the fuzzy AHP-TOPSIS method in the financial performance evaluation of trading companies (Lukić, 2011, 2018, 2019; Лукић, 2018; Lukić et al, 2020). The present paper intends to fill a part of this gap, thereby contributing to the scientific and professional knowledge.

The main hypothesis of this paper is that continuous monitoring of the financial performance of all companies, including trading companies, is essential for its improvement in the future through adequate measures. In the methodological sense, in addition to statistical analysis, econometric analysis, and other mathematical methods and models, evaluation of the financial performance of trading companies using the integrated fuzzy AHP-TOPSIS method can contribute significantly to achieving this.

For the purpose of examining the issues addressed in this paper, data were taken from the Annual Bulletin of the Financial Statements for 2014, 2016, and 2018 of the Serbian Business Registers Agency. The data are produced in accordance with relevant international standards, thus allowing for international comparisons.

2. Fuzzy AHP method

Multi-criteria decision making by applying the Analytic Hierarchy Process (AHP) was developed using a fuzzy approach, known as a fuzzy AHP approach. This approach combines a fuzzy concept with the AHP. It was developed by Chang (1996) using triangular fuzzy numbers (TFN).

Let $X = (x_1, x_2, \ldots, x_n)$ denote a set of objects, and $U = (u_1, u_2, \ldots, u_m)$ a set of goals. According to the extent analysis method (developed by Chang), an extent analysis of target u_{ij} is performed for each object. The extent analysis value m for each object is expressed as:

$$M_{gi}^1, M_{gi}^2, M_{gi}^m, \quad i = 1,2, \ldots, n \qquad 1)$$

where $m_{g,}^j \, j = 1,2, \ldots, m$ are triangular fuzzy numbers.

Figure 1 shows a triangular fuzzy number, as a combination of two lines.

Figure 1: Triangular fuzzy number *M = (l,m,u)*
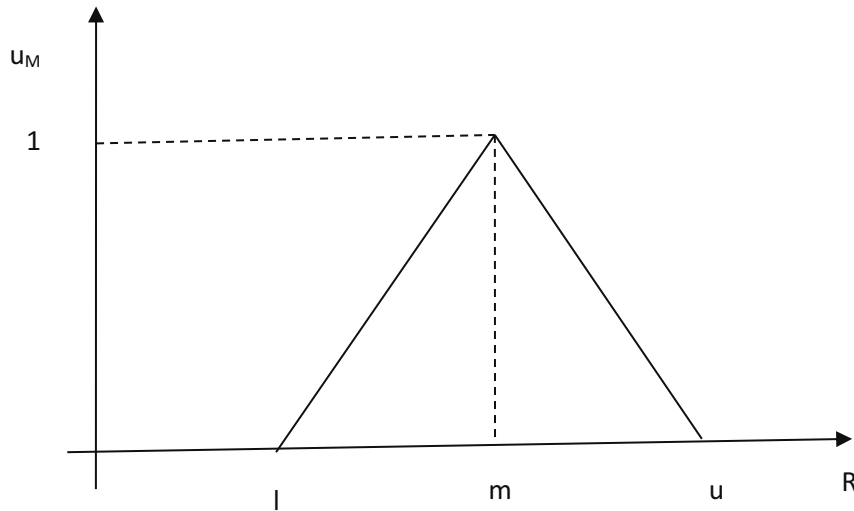
Chang's extent analysis includes the following steps (Chang, 1992, 1996; Zhu et al., 1999; Büyüközkan et al., 2004; Moghimi & Anvari, 2014):

Step 1: The fuzzy synthetic extent for the i-th object is defined as:

$$S_i = \sum_{j=1}^{m} M_{gi}^{j} \times \left[\sum_{i=1}^{n} \sum_{j=1}^{m} M_{gi}^{j} \right]^{-1} \qquad (2)$$

To obtain the equation

$$\sum_{j=1}^{m} M_{gi}^{j}$$

it is necessary to perform additional fuzzy operations with *m* values of the extent analysis so that

$$\sum_{j=1}^{m} M_{gi}^{j} = \left(\sum_{j=1}^{m} l_j , \sum_{j=1}^{m} m_j , \sum_{j=1}^{m} u_j \right) \qquad (3)$$

To obtain the equation

$$\left[\sum_{i=1}^{n} \sum_{j=1}^{m} M_{gi}^{j} \right]^{-1}$$

additional fuzzy operations with M_{gi}^{j} $(j = 1,2,\dots,m)$ values must be performed so that

$$\sum_{i=1}^{n} \sum_{j=1}^{m} M_{gi}^{j} = \left(\sum_{j=1}^{m} l_j , \sum_{j=1}^{m} m_j , \sum_{j=1}^{m} u_j \right) \qquad (4)$$

and then the inverse vector in the equation (4) is determined as

$$\left[\sum_{i=1}^{n} \sum_{j=1}^{m} M_{gi}^{j} \right]^{-1} = \left(\frac{1}{\sum_{i=1}^{n} u_i} , \frac{1}{\sum_{i=1}^{n} m_i} , \frac{1}{\sum_{i=1}^{n} l_i} \right) \qquad (5)$$

Step 2: Degree of possibility $M_2 = (l_2, m_2, u_2) \geq M_1 = (l_1, m_1, u_1)$ is defined as

$$V(M_2 \geq M_1) = sup\left[min\left(u_{m1}(x), u_{m2}(y)\right)\right] \qquad (6)$$
$$y \geq x$$

and can be expressed equivalently as

$$V(M_2 \geq M_1) = hgt\,(M_1 \cap M_2) = u_{m2}\,(d) \qquad (7)$$

$$= \begin{cases} 1 \ if \ m_2 \geq m_1 \\ 0 \ if \ l_1 \geq u_2 \\ \dfrac{l_1 - u_2}{(m_2 - u_2) - (m_1 - l_1)} \end{cases} \qquad (8)$$

where d is the ordinate of the largest intersection point D between u_{m1} and u_{m2} (Figure 2). By comparing M_1 with M_2, it is evident that the values needed are $V(M_1 \geq M_2)$ and $V(M_2 \geq M_1)$.

Figure 2: Intersection point of $\dot{M}_1$ and $\dot{M}_2$
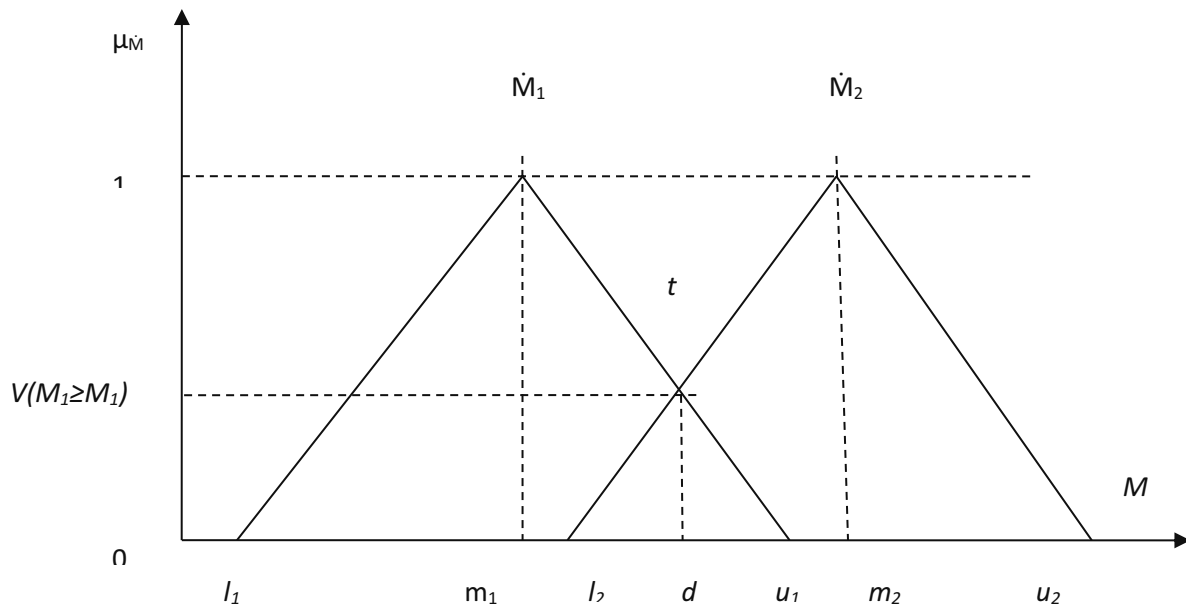
Step 3: The degree of possibility for a convex fuzzy number, which needs to be greater than k convex fuzzy $M_i\,(i = 1,2,...,k)$ numbers, can be defined as

$$V(M \geq M_1, M_2, ..., M_k) = V[(M \geq M_1) \ and \ (M \geq M_2) \ and \ ... and \ (M \geq M_k)] =$$
$$= min\,V(M \geq M_1) \qquad (9)$$

Assuming that

$$d'(A_i) = min\,V(S_i \geq S_k) \qquad (10)$$

for $k = 1,2,...,n; k \neq i$. The weight vector is then given as

$$W' = [d'(A_1), d'(A_2), ..., d'(A_n)]^T \qquad 11)$$

where $A_i\,(i = 1,2,...,n)$ are n elements.

Step 4: Through normalization, the normalized vectors are:

$$W = [d(A_1), d(A_2), ..., d(A_n)]^T \qquad (12)$$

where *W* does not represent a fuzzy number.

The weakness of the fuzzy AHP approach is that it does not take into consideration the degree of consistency, i.e. it does not calculate the consistency ratio. It can be calculated based on crisp values. The degree of consistency of the fuzzy AHP approach can be verified by applying the Kwong method (Kwong & Bai, 2003). A triangular number denoted by M = (l, m, u) should be dephased as follows:

$$M_{-crsp} = \frac{(4m + l + u)}{6} \qquad (13)$$

and a standard procedure for determining the degree of consistency should be applied as in the traditional AHP.

The application of the fuzzy AHP approach offsets the disadvantages of the traditional AHP method (Saaty, 1970, 1980, 1986, 2008; Saaty & Vargas, 2001; Harker & Vargas, 1987). To this end, different comparison scales using triangular fuzzy numbers have been developed, so that a decision maker can evaluate the significance of a criterion or an alternative much more accurately and easily and thus minimize his/her subjectivity (Table 1).

Table 1: Triangular fuzzy scales (Chang, 1996)

Linguistic variable	Triangular fuzzy scale	Fuzzy reciprocal scale
Just equal	(1, 1, 1)	(1, 1, 1)
Equally important	(1/2, 1, 3/2)	(2/2, 1, 2)
Weakly important	(1, 3/2, 2)	(1/2, 2/3, 1)
Strongly more important	(3/2, 2, 5/2)	(2/5, 1/2, 2/3)
Very strongly more important	(2, 5/2, 3)	(1/3, 2/5, 1/2)
Absolutely more important	(5/2, 3, 7/2)	(2/7, 1/3, 2/5)

Source: Honarbakhsh et al., 2018.

3. TOPSIS method

The Technique for Order Preference by Similarity to Ideal Solution (TOPSIS) has been used very successfully in evaluating companies' financial performance (Üçüncü et al., 2018). It is a multi-criteria decision making technique originally developed and applied by Hwang & Yoon (1981) and Hwang & Yoon (1995). According to this method, alternatives are determined by their distances from the ideal solution. The aim is to choose an optimal alternative that is closest to the ideal solution, that is, furthest from the negative ideal solution (Young et al., 1994). A positive ideal solution maximizes utility, i.e. minimizes costs (associated with a given problem). In contrast, a negative ideal solution maximizes costs, i.e. minimizes utility (Yousefi & Hadi-Vencheh, 2010; Wang & Lee, 2007).
The TOPSIS method involves 6 steps (Üçüncü et al., 2018).

Step 1: Construct an initial matrix
In the initial matrix A_{ij}, *"m"* denotes the number of alternatives and *"n"* the number of criteria:

$$A_{ij} = \begin{vmatrix} a_{11} & a_{12} & \cdots & a_{1n} \\ a_{21} & a_{22} & \cdots & a_{2n} \\ \vdots & \vdots & \ddots & \vdots \\ a_{m1} & a_{m2} & \cdots & a_{mn} \end{vmatrix}$$

Step 2: Calculate the weighted normalised decision matrix
The normalized decision matrix (R_{ij}; i=1,…,m; j=1,…,n) is determined by equation (14) with the elements of the matrix A_{ij}:

$$r_{ij} = \frac{a_{ij}}{\sqrt{\sum_{i=1}^{m} a_{ij}^2}} \tag{14}$$

$$t = 1,2,3,\dots,m \qquad\qquad j = 1,2,3,\dots,n$$

$$R_{ij} = \begin{vmatrix} r_{11} & r_{12} & \cdots & r_{1n} \\ r_{21} & r_{22} & \cdots & r_{2n} \\ \vdots & \vdots & \ddots & \vdots \\ r_{m1} & r_{m2} & \cdots & r_{mn} \end{vmatrix}$$

In equation (15), the weighed measure "*j*" is represented by W_{ij}. The weighted normalized decision matrix (V_{ij}; *i=1,…,m; j=1,…,n*) is determined by using equation (15) with the elements of the normalized matrix:

$$V_{ij} = W_{ij} * r_{ij} \tag{15}$$
$$i = 1,2,3,\dots,m \qquad j = 1,2,3,\dots,n$$

Step 3: Determine the positive and the negative ideal solutions
The values of the positive ideal solution (A^+) and the negative ideal solution (A^-) are determined from/based on the values of the weighted normalized matrix (V_{ij}). A^+ indicates a higher performance score, while A^- indicates a lower performance score.

The values of the positive ideal solution (A^+) and the negative ideal solution (A^-) are determined as follows (equation (7) and (8), respectively):

$$A^+ = \{v_i^+,\dots,v_n^+\} = \left\{\left(\max_i v_{ij}, j \in j\right)\left(\min_i v_{ij}, j \in j'\right)\right\} \; i = 1,2,\dots,m \tag{16}$$

$$A^- = \{v_i^-,\dots,v_n^-\} = \left\{\left(\min_i v_{ij}, j \in j\right)\left(\max_i v_{ij}, j \in j'\right)\right\} \; i = 1,2,\dots,m \tag{17}$$

where *j* is related to the benefit criterion, and *j'* is related to the cost criterion.

Step 4: Determine separation measures (i.e. the distance of alternatives from the ideal solution and the negative ideal solution)
The distance from the positive ideal solution (S_i^+) and the negative ideal solution (S_i^-) for each alternative according to the given criterion is determined using equations (18) and (19).

$$S_i^+ = \sqrt{\sum_{j=1}^{n} (v_{ij} - v_j^+)^2} \tag{18}$$

$$S_i^- = \sqrt{\sum_{j=1}^{n}(v_{ij} - v_j^-)^2} \qquad\qquad (19)$$

$$i = 1,2,3, \dots, m \qquad\qquad\qquad j = 1,2,3, \dots, n$$

Step 5: Determine the relative closeness coefficient to the ideal solution
Separation measures of the positive ideal solution (S_i^+) and the negative ideal solution (S_i^-) were used to determine the relative closeness to the ideal solution (C_i^+) for each decision point. C_i^+ represents the relative closeness to the ideal solution and its value can range between $0 \le C_i + \le 1$. "C_i^+" = 1 indicates the relative closeness to the positive ideal solution. "C_i^+" = 0 indicates relative closeness to the negative ideal solution.

The relative closeness to the ideal solution (C_i^+; i=1,…,m; j=1,…,n) was determined using equation (20):

$$C_i^+ = \frac{S_i^-}{S_i^- + S_i^+} \qquad\qquad (20)$$

$$i = 1,2,3, \dots, m$$

Step 6: Rank the alternatives according to their scores
The score represent a company's performance. Higher scores are indicative of stronger performance. The results can be used to determine a company's ranking within an industry (Üçüncü et al., 2018).

4. Measuring the financial performance of trading companies in Serbia

The financial performance of trading companies in Serbia was measured using the fuzzy AHP - TOPSIS method. The criteria used include employees' salaries, assets, capital, sales, and net profit. The observed years, i.e. 2013, 2014, 2015, 2016, 2017, and 2018 were used as alternatives. Table 2 shows the values of the relevant criteria.

Table 2: The values of criteria used in the context of measuring the financial performance of trading companies in Serbia, 2013 - 2018

	Employees' salaries (in thousands of RSD)	Assets (in thousands of RSD)	Capital (in thousands of RSD)	Sales (in thousands of RSD)	Net profit (in thousands of RSD)
2013	151,978	2,160,474	746,992	2,891,518	89,730
2014	154,833	2,157,564	761,305	2,594,602	86,955
2015	164,718	2,197,931	805,009	2,731,999	95,265
2016	180,367	2,324,843	859,749	3,009,651	105,238
2017	194,924	2,375,290	920,992	3,172,393	122,727
2018	218,410	2,524,897	1,007,972	3,361,094	121,816

Source: Financial Statements Annual Bulletin for 2014, 2016 and 2018, Serbian Business Registers Agency

Table 3 shows descriptive statistics of the values of the criteria used in the context of measuring the financial performance of trading companies in Serbia using the fuzzy AHP-TOPSIS method.

Table 3: Descriptive statistics of the values of the criteria used in the context of measuring the financial performance of trading companies in Serbia using the fuzzy AHP-TOPSIS method

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. deviation
Employees' salaries (in thousands of RSD)	6	151,978.00	218,410.00	177,538.3333	25,744.82335
Assets (in thousands of RSD)	6	2,157,564.00	2,524,897.00	2,290,166.5000	145,916.29968
Capital (in thousands of RSD)	6	746,992.00	1,007,972.00	850,336.5000	100,589.28534
Sales (in thousands of RSD)	6	2,594,602.00	3,361,094.00	2,960,209.5000	282,362.20727
Net profit (in thousands of RSD)	6	86,955.00	122,727.00	103,621.8333	15,743.25328
Valid N (listwise)	6				

Source: Authors' calculation using SPSS software

As shown in Table 3, the mean values for the criteria used in the context of measuring the financial performance of trading companies in Serbia using the fuzzy AHP-TOPSIS method are as follows (in thousands of RSD): employees' salaries – 177,538, assets – 2,290,166, capital – 850,336, sales – 2,960,209, and net profit – 103,621. They were lower in the period 2013–2015 and above average in the period 2016–2018. In other words, the financial performance of trading companies in Serbia improved in the period 2016–2018.

Table 4 shows the correlation matrix of the values of the criteria used in the context of measuring the financial performance of trading companies in Serbia using the fuzzy AHP-TOPSIS method.

Table 4: Correlation matrix of the values of criteria used in the context of measuring the financial performance of trading companies in Serbia using the fuzzy AHP-TOPSIS method

Correlations		Employees' salaries	Assets	Capital	Sales	Net profit
Employees' salaries	Pearson Correlation	1	.995**	1.000**	.913*	.948**
	Sig. (2-tailed)		.000	.000	.011	.004
	N	6	6	6	6	6
Assets	Pearson Correlation	.995**	1	.991**	.934**	.935**
	Sig. (2-tailed)	.000		.000	.006	.006
	N	6	6	6	6	6
Capital	Pearson Correlation	1.000**	.991**	1	.906*	.951**
	Sig. (2-tailed)	.000	.000		.013	.004
	N	6	6	6	6	6
Sales	Pearson Correlation	.913*	.934**	.906*	1	.917*
	Sig. (2-tailed)	.011	.006	.013		.010
	N	6	6	6	6	6
Net profit	Pearson Correlation	.948**	.935**	.951**	.917*	1
	Sig. (2-tailed)	.004	.006	.004	.010	
	N	6	6	6	6	6
**. Correlation is significant at the 0.01 level (2-tailed).						
*. Correlation is significant at the 0.05 level (2-tailed).						

Source: Authors' calculation using SPSS software

It is evident that there is a statistically significant correlation Sig. (2-tailed) < 0.05) between the elements (balance sheet items considered as criteria) analyzed in the context of measuring the financial performance of trading companies in Serbia using the fuzzy AHP-TOPSIS method.

Next, the fuzzy AHP method was applied to determine the weighted coefficients for the criteria used in the context of measuring the financial performance of trading companies in Serbia using the fuzzy AHP-TOPSIS method. (The data were analysed in Excel using Chang's fuzzy AHP with Consistency Ratio.xlsx.)

Table 5 shows the linguistic scale of values that was used in this paper.

Table 5: Membership function of linguistic scale (example)

Fuzzy number	Linguistic	Scale of fuzzy number
9	Perfect	(8,9,10)
8	Absolute	(7,8,9)
7	Very good	(6,7,8)
6	Fairly good	(5,6,7)
5	Good	(4,5,6)
4	Preferable	(3,4,5)
3	Not bad	(2,3,4)
2	Weak advantage	(1,2,3)
1	Equal	(1,1,1)

Source: Chang Fuzzy AHP with Consistency Ratio.xlsx.

Table 6. shows the initial comparison matrix.

Table 6: Initial comparison matrices

	Perfect	Absolute	Very good	Fairly good	Good	Preferable	Not bad	Weak advantage	Equal	Weak advantage	Not bad	Preferable	Good	Fairly good	Very good	Absolute	Perfect		Total Number of Experts
			Left criteria is greater							Right criteria is greater									
A							4	2	1	1								B	12
A							3	1	1	2	3							C	12
A							4	3	1	3	2							D	12
A							3	3	1	3	4							E	12
B							4	3	1	3	4							C	12
B							3	3	1	3	2							D	12
B							4	3	1	2	4							E	12
C							3	2	1	2								D	12
C							2	3	1	3	4							E	12
D						4	3	3	1	3		4						E	12

. Key to symbols: A – employees' salaries, B - assets, C - capital, D - sales and E - net profit.
Source: Authors' calculation in Excel using Chang's fuzzy AHP with Consistency Ratio.xlsx

Table 7 shows the integrated fuzzy comparison matrix.

Table 7: Integrated fuzzy comparison matrices

	A			B			C			D			E		
A	1	1	1	1.1497	1.5280	1.9064	0.7002	0.9439	1.3032	0.7598	1.2009	1.8612	0.5692	0.9125	1.4772
B	0.5246	0.6544	0.8698	1	1	1	0.6031	1.0000	1.6581	0.7172	1.0959	1.6581	0.6609	1.0595	1.6581
C	0.7673	1.0595	1.4282	0.6031	1.0000	1.6581	1	1	1	0.9902	1.3161	1.6984	0.5373	0.8327	1.3161
D	0.5373	0.8327	1.3161	0.6031	0.9125	1.3943	0.5888	0.7598	1.0099	1	1	1	1.3032	2.0891	3.1826
E	0.6769	1.0959	1.7567	0.6031	0.9439	1.5131	0.7598	1.2009	1.8612	0.3142	0.4787	0.7673	1	1	1

	Fuzzy Sum of Each Row			Fuzzy Synthetic Extent		
	4.1790	5.5853	7.5480	0.1151	0.2155	0.3979
	3.5057	4.8098	6.8442	0.0966	0.1856	0.3608
	3.8979	5.2082	7.1008	0.1074	0.2010	0.3743
	4.0324	5.5942	7.9029	0.1111	0.2159	0.4166
	3.3541	4.7194	6.8984	0.0924	0.1821	0.3637
Sum	18.9691	25.9169	36.2943			

Degree of possibility of Mi > Mj					Degree of possibility (Mi)	Normalization		
	1	1	0.999	1	0.999	0.2117	0.212	
0.891		0.943	0.892	1	0.891	0.1889	0.189	Weights of criteria
0.947	1		0.946	1	0.946	0.2006	0.201	
1	1	1		1	1	0.2119	**0.212**	
0.881	0.987	0.931	0.882		0.881	0.1868	0.187	
					4.718	1		
					Sum			

Consistency Ratio (CRm)	0.0367	Compare with 0.1, They should be less than 0.1
Consistency Ratio (CRg)	0.0991	

Key to symbols: A - employees' salaries, B - assets, C - capital, D - sales and E - net profit.
Source: Authors' calculation in Excel using Chang's fuzzy AHP with Consistency Ratio.xlsx.

Among the observed criteria, the most important ones are the sales and employees' salaries. The weights of the observed criteria obtained by the fuzzy AHP method will be used in evaluating the financial performance of trading companies in Serbia using the TOPSIS method. (Data were analysed, applying the TOPSIS method, in Excel using the ARAS Software.xlsx.) Table 8 shows the initial decision matrix.

Table 8: Initial decision matrix

Initial matrix					
Weights of criteria	0.212	0.189	0.201	0.212	0.187
Kind of criteria	-1	1	-1	1	1
	C1	C2	C3	C4	C5
2013	151,978	2,160,474	746,992	2,891,518	89,730
2014	154,833	2,157,564	761,305	2,594,602	86,955
2015	164,718	2,197,931	805,009	2,731,999	95,265
2016	180,367	2,324,843	859,749	3,009,651	105,238
2017	194,924	2,375,290	920,992	3,172,393	122,727
2018	218,410	2,524,897	1,007,972	3,361,094	121,816
MAX	218,410	2,524,897	1,007,972	3,361,094	122,727

MIN	151,978	2,157,564	746,992	2,594,602	86,955
0-Optimal Value	151,978	2,524,897	746,992	3,361,094	122,727

The symbols represent alternatives, i.e. the observed years: A1 - 2013, A2 - 2014, A3 - 2015, A4 - 2016, A5 - 2017 and A6 - 2018.

Source: Authors' calculation in Excel using ARAS Software.xlsx.

Table 9 shows the normalized decision matrix.

Table 9: Normalized decision matrix

Normalized Matrix					
Weights of criteria	0.212	0.189	0.201	0.212	0.187
Kind of criteria	-1	1	-1	1	1
	C1	C2	C3	C4	C5
0-Optimal Value	0.1607	0.1552	0.1580	0.1591	0.1649
2013	0.1607	0.1328	0.1580	0.1369	0.1205
2014	0.1577	0.1326	0.1550	0.1228	0.1168
2015	0.1483	0.1351	0.1466	0.1293	0.1280
2016	0.1354	0.1429	0.1373	0.1425	0.1414
2017	0.1253	0.1460	0.1281	0.1502	0.1649
2018	0.1118	0.1552	0.1171	0.1591	0.1636

The symbols represent alternatives, i.e. the observed years: A1 - 2013, A2 - 2014, A3 - 2015, A4 - 2016, A5 - 2017 and A6 - 2018.

Source: Author's calculation in Excel using ARAS Software.xlsx

Table 10 shows the normalized weighted decision matrix

Table 10: Normalized weighted decision matrix

Normalized Weighted Matrix					
	C1	C2	C3	C4	C5
0-Optimal Value	0.0341	0.0293	0.0318	0.0337	0.0308
2013	0.0341	0.0251	0.0318	0.0290	0.0225
2014	0.0334	0.0251	0.0312	0.0260	0.0218
2015	0.0314	0.0255	0.0295	0.0274	0.0239
2016	0.0287	0.0270	0.0276	0.0302	0.0264
2017	0.0266	0.0276	0.0258	0.0318	0.0308
2018	0.0237	0.0293	0.0235	0.0337	0.0306

The symbols represent alternatives, i.e. the observed years: A1 - 2013, A2 - 2014, A3 - 2015, A4 - 2016, A5 - 2017 and A6 - 2018.

Source: Authors' calculation in Excel using ARAS Software.xlsx

Table 11 and Figure 3 show the decision matrix rankings.

Table 11: Decision matrix rankings

	S	K	K	Ranking
0-Optimal Value	0.1597	1	1	
2013	0.1425	0.8921	0.8921	2
2014	0.1376	0.8612	0.8612	6
2015	0.1378	0.8627	0.8627	5
2016	0.1400	0.8762	0.8762	4
2017	0.1426	0.8927	0.8927	1
2018	0.1409	0.8822	0.8822	3

The symbols represent alternatives, i.e. the observed years: A1 - 2013, A2 - 2014, A3 - 2015, A4 - 2016, A5 - 2017 and A6 - 2018.

Source: Authors' calculation in Excel using ARAS Software.xlsx

Figure 3: Decision matrix rankings
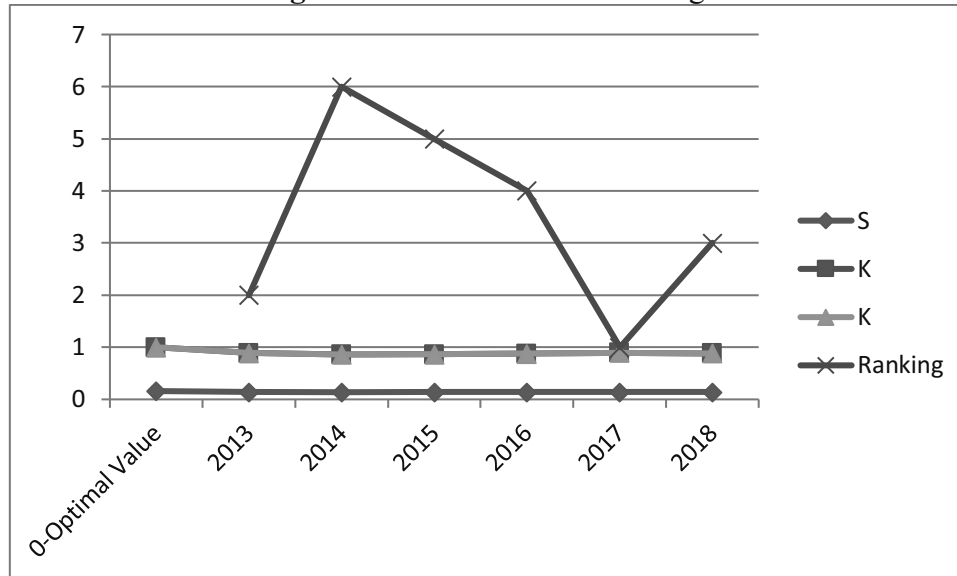
Source: Authors' calculation

Thus, during the observed period (2013–2018), the best financial performance of trading companies in Serbia was recorded in 2017. Recently, the financial performance of these companies has significantly improved as a result of a number of factors. They include significantly improved general economic conditions, low bank interest rates, stable exchange rates, low inflation, lower unemployment rates, higher standard of living, and last but not least the increasing number of foreign retail chains that use new business models and the increasing digitisation of business.

5. Conclusion

The results of research conducted using the fuzzy AHP-TOPSIS method show that among the observed criteria the most important ones are the sales and employees' salaries. In the observed period (2013 – 2018), the best financial performance was recorded in 2017 and 2018, respectively. It is of note that lately the financial performance of trading companies in Serbia has significantly improved. A number of factors have contributed to this result, such as significantly improved general economic conditions, low bank interest rates, stable exchange rates, low inflation, lower unemployment rates, and higher living standard. In addition, the increasing number of foreign retail chains that use new business models and the increasing digitization of business have also played a role in these changes. In the future, trading companies in Serbia should apply the concepts of strategic management accounting as much as possible with a view to improving their financial performance. Ongoing monitoring of the efficiency of trading companies enables the trend to be observed and provides a better basis for taking appropriate improvement measures in the future. In other words, knowing the present situation is a prerequisite for improvement in the future.

In the recent literature, financial efficiency is analyzed from different angles, by companies from different sectors across countries, including trade enterprises. Similar studies have been done, for example, in Turkey or Iran, but this research is an introduction to the analysis of the financial efficiency of the trading companies of the surrounding countries (e.g. Bosnia and Herzegovina, Croatia, Serbia).

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A scientific paper

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IMPACT OF MARKETING ACTIVITIES ON FUNDRAISING SUCCESS TROUGH DONOR'S MOTIVATION

ABSTRACT

In this paper author analyzes the impact of nonprofit marketing activities on fundraising performance through donors' motivation. The success of nonprofit organizations strongly depends on their capability to adopt, adjust and implement best practices from profit sector. Based on relevant body of knowledge, NGOs should become entrepreneurial, e.g. take responsibility, be innovative and take risk to achieve organizational goals and mission. Marketing activities are among most important tools for NGOs which can help them to attract and retain new donors. In the context of financial resources individual donors should become one of the most important source - due to growing trend of competitors in nonprofit sector as well as scarce resources on the „market". In fundraising strategy, donors should be perceived as a „customers"and NGOs should try to fulfill their need to donate rather than just ask for resources. In order to attract new donors their motivation should be identified and marketing activities should be shaped to fit it. Accordingly, the aim of this research is to examine the impact of marketing activities of non-profit organizations on donors' motivation. Set of marketing activities was proposed and grouped in three main categories: donors' relationship perception, core values (case for support) perception and public credibility and/or visibility perception. Donors' motivation is determined by six items representing emotional and pragmatic reasons to donate. In the empirical part, the results of research conducted on 155 respondents who already donated, are presented. Results show interested findings about relationship between marketing activities and donors' motivation. Proposed marketing activities only partially impact donor's motivation, e.g. core values of nonprofit perception impacts fewer motives than donor's relationship perception. Simultaneously, public credibility and/or visibility perception has positive influence on majority motives to donate. The results contribute to nonprofit marketing body of knowledge, raising awareness about necessity of implementing business practices and entrepreneurial mindset in nonprofit organizations in order to ensure sustainable growth and development. Practical implications, limitations and recommendation for future researches are also given.

Key words: *marketing activities, fundraising, donor's motivation, nonprofit entrepreneurship.*

1. Introduction

The role and importance of nonprofit organizations has been subject of debate for over 40 years. Nowadays, nonprofit organizations (NPOs) play an important role in society, while their success depends on the application of business tools and principles to ensure sustainability and development (Alfirević et al., 2013). Rise of interest for social entrepreneurship as a way to achieve NPO sustainability and address social problems (Fowler at al., 2019) has growing trend

among researchers. In order to achieve their vision, mission and goals as well as meet the needs of their stakeholders, nonprofit organizations (NPO) must apply marketing activities. Marketing activities, aimed at target groups of stakeholders (Andreasen & Kotler, 2008), certainly represent an important role in the business (and even entrepreneurial) activity of the NPO. One of the reasons for using marketing activities in the non-profit sector is to provide the necessary resources (financial and human) to achieve the organization's goals (Andreasen & Kotler, 2008, p. 350). Undoubtedly, financial recourses are of great importance to NPOs, assuring sustainability in providing service to beneficiaries (Sargeant et al. 2010, p. 325). Therefore, the use of donor-focused marketing activities is one of the key assumptions for NPO success. In addition, NPO must behave in an entrepreneurial manner due to increased number of NPOs, decrease in governmental financial support, as well as limited resources available on the „market". Nonprofit sector should develop new methods to increase revenues from different sources which arises importance to implement entrepreneurial mindset (Helm & Anderson, 2010). Social entrepreneurship (associated with social responsibility practice) (Sagawa & Segal, 2000) can be found in profit and nonprofit sector (Weerawardena & Mort (2012). Bhattarai, Kwong & Tasavor (2019) claim that business practices and market orientation can improve both economic and social performance of a company. While there is relatively large body of knowledge about social entrepreneurship in profit sector (Defourny & Nyssens, 2010), studies and publications analyzing nonprofit entrepreneurship became noticeable in last decade (Laurett et al., 2019). Researchers interest is focused mostly on the role and importance of nonprofit entrepreneurship, while their particular business skills and marketing activities implementation (opportunities identification, resource allocation, ability to react to „market" change) has been pushed into the background (Haeffele & Storr, 2019). Instead of achieving personal gains (profit and other financial benefits), NPOs should use business practices and entrepreneurial mindset to fulfill mission and goals, while simultaneously providing social benefits in a complex environment (Morris et al., 2011). To summarize, use of marketing activities in nonprofit sector is of great importance, due to its complex environment, multiple stakeholders, limited resources and immeasurable goals (Najev Čačija, 2016). It is essential for a NPO (in order to fundraise successfully) to establish relationship with donors and communicate its work with public. To achieve this, all activities should start with „product" or case for support (Alfirević et al., 2013, p.129) Case for support gives answer to the question "Why to support this organization and its activities right now?", gives brief explanation about former activities and guarantees NPO's credibility (Sargeant et al, 2010, p.181). As in the for-profit sector, retaining existing stakeholders (customers or donors) reduces costs and maximizes benefits. Therefore, it is important for a NPO to determine the needs and behaviors of existing and potential donors. In other words, it is necessary to ask the question what motivates the donors. This paper examines the use of donor-focused marketing activities and their impact on donor's motivation. It should be emphasized that all activities must be aligned with activities related to other stakeholder groups, particularly beneficiaries.

2. Literature overview

Due to the necessity to meet the needs of multiple stakeholders simultaneously, it can be argued that managing nonprofits is more complex than managing profit organizations of comparable size (Alfirević et al., 2013, p.141). Accordingly, necessity of business practices and entrepreneurial mindset in nonprofit sector is now more important than ever. Based on this complexity and multiple stakeholders theory, Friedman et al. (2006, p.151) emphasize several guidelines to consider in managing a NPO, all of which should be implemented in managing donors. For example, managers should recognize and monitor the interests of all legitimate stakeholders and take them into account when making decisions; need to listen and

communicate with stakeholders about their individual interests; adopt processes and behaviors that are sensitive to the interests and capabilities of each individual stakeholder; recognize the interdependence of effort and rewards among stakeholders and try to fairly distribute benefits and burdens (Ibid.). Majority of NPOs show inadequate expertise in nonprofit marketing and fundraising management (Sargeant, 2001; Pope, Isely & Asamoa-Tutu, 2009) as well as lack of entrepreneurial mindset and skills (Smith et al.,2012; Gallagher et al.,2012) and, as consequence, implement ad-hoc fundraising with the questionable success rate (Najev Čačija, 2016). Lack of financial funds and the decreased giving by current donors', as well as lack of interest from potential donors, could jeopardize NPO sustainability (Ibid.). All previously mentioned, combined with a high level of uncertainty and slowing down in economic growth can be a real threat to survival of nonprofit sector and consequently, benefit for society. It is important to investigate how NPOs can (better) use business practices and entrepreneurial mindset through implementing different marketing activities to impact donor's motivation to donate.

From a NPO perspective, four marketing mix elements should be considered as the special combination of the four elements, in order to achieve an exchange between the organization and the stakeholders (Alfirević et al., 2013, p.144-147). The product, as the first element, exists on various levels: a core product is what solves the stakeholders' problems; an actual product is a tangible factor that a stakeholder will receive from an organization; and an expanded product is a series of additional products and services that offers additional benefits and meets stakeholders needs beyond their expectations (Kotler & Lee, 2007, p. 50-51). From donor's perspective, case for support is a substitute (or a synonym) for a product. Case for support is a document that provides information to a donor (Sargeant & Jay, 2014, p. 182) and by which NPO communicates its mission and values, importance and urgency, specific goals, history, and credibility (Alfirević et al, 2013,p.130). It is particularly important for donors' perception of the organization they currently support (Sargeant et al., 2001). To create a good case for support it must have foundation in NPO mission. Mission statement is probably one of the most critical elements to communicate core values to all stakeholders (Kirk & Beth Nolan, 2010). By ensuring understanding and credibility of NPO, core values legitimacy is ensured, providing access to various financial resources more easily (Ibid.). Reputation of a NPO has direct impact on its ability to fundraise (Grounds & Harkness, 1998). In that way, a NPO can easily improve its performance and spend less time in convincing donors they deserve support in environment with constrained resources (Faircloth, 2005). Using promotional activities can help a NPO to achieve credibility and legitimacy goals. Adjustment of promotional goals and activities (Bonk et al., 2008), one of which is to initiate fundraising and increase the amount of funds raised, can enhance fundraising actions and increase donations. In order to initiate and increase donations, a NPO should establish a relationship with donors. For a relationship to become a long-term it should maintain donor motivation. That is achievable through the application of relationship marketing. As this relationship develops, efforts that a NPO puts into it ensures fundraising success (Khodakarami et al., 2015). Burnett (2002) recognized each donor as unique in terms of past donations, motivation to donate, and post donation activities from a supported organization. Relationship with the donor, from a NPO point of view, should be considered through history and fundraising performance prism, regarding perceived donor's lifetime value (Ibid.). The best fundraising performances are achieved by NPOs that make donors emotionally bind to their projects. Relationship with the donor, as an obligatory part of marketing activities, leads toward a much simpler way to raise funds (Sargeant et al., 2001).

Previously explained activities are a way to motivate donors to start donating, or continue to donate to the organization. Motivation can be defined as any influence that provokes, directs,

and maintains targeted human behavior (Pollak, 2014). From external perspective, stakeholder motivation, particularly donor's motivation, is important to evaluate, anticipate and influence behavior. Due to increased number of NPOs, and scarce resources available, organizations need to recognize the motives for donating, in order to manage relationship with donors successfully (Bachke et al.,2014; Khokadakarami et al., 2015; Waters, 2011). Helping others comes in many forms, from giving money to a charity to carrying a bag for an elderly neighbor. As there are many ways of helping others, so there are many different motives (Anik at al., 2009). Murphy (2001, p.11.) states that individuals donate out of compassion, in order to contribute to the community, for tax benefits, if they are themselves affected by the cause of the organization, or because of some personal beliefs. Pollak (2014, p.30-35) groups motives into three categories: altruism and empathy (which include motives not directly related to the donor's own interests but to the emotional state of the other person); egoism or psychological benefits (motives that are related to the donor's own interests) and the sense of duty (motives related to one's beliefs and moral responsibility). It is in accordance with Gordon and Khumawala's (1999) findings that individual donor motives vary, which includes religion, social expectations and altruism. According to Eckel and Grosman (2003) donors will prefer to donate to a NPO if their donation can make significant impact to a community. Kottasz (2004) makes distinction between intrinsic and extrinsic motives to donate, describing individual motivation as being egoistic, altruistic or a combination. It was stated earlier that one of the goals of a nonprofit's marketing activities is to ensure sustainability through successful fundraising. Recently, fundraising is becoming increasingly important for the nonprofit sector, due to environment, potential to new global economic crisis and more powerful and numerous competitors. Fundraising success should be looked at in the long run, so donor satisfaction should be taken into account as only a satisfied donor will repeat the donation and become loyal (Knowles & Gomes, 2009; Sargeant et al. 2010, Topaloglu et al., 2018).

Therefore, the fundraising success depends on the marketing activities of a NPO, primarily those who directly impact donor's motivation and assure positive perception about organization and its goals. Conclusively, a NPO can (and should) impact donor's decisions and behaviors through different marketing activities, which can be classified in three categories: core values perception, public credibility/visibility perception and donor's relationship perception. All of them impact (but not solely) donor's motivation to donate. Therefore, the empirical part of this paper explores whether marketing activities specified through three main categories regarding donor's perception of NPO influence donor's motivation.

3. Methodology

3.1. Research objective and hypothesis

Main objective of this research is to determine impact of marketing activities on donor's motivation. The operationalization of the nonprofit marketing activities (Pope et al., 2009; Andreasen & Kotler, 2008) and donor's motivation (by using the constructs related to the elements of donor's perception and motivation) is based on the findings of relevant authors as follows:

- Donor relationship perception (DRP): eight items representing reasons to stop donating and preferences to change supporting NPO (Khodakarami et al., 2015; Sargeant, West & Ford, 2004; Sargeant, 2001),
- Core values perception (CVP): five items representing importance of mission and values, beneficiaries needs, specific usage of resources, NPO credibility and

consequences if NPO goals are not achieved (Bachke et al., 2014; Smith et al., 2012; Kirk & Beth Nolan, 2010; Faircloth, 2005; Grounds & Harkness, 1998),

- Public credibility/visibility perception (PCP): seven items representing public recognition of NPOs work, availability of relevant information, social media presence and celebrity support (Shier & Handy, 2012; Bonk et al., 2008; Long & Chiagouris, 2006),
- Donors motivation (DM): six items representing pragmatic and emotional motives to donate, including good feeling, community involvement, life choice, personal experience, personal benefits and religion (Pollak, 2014; Breeze, 2013; Knowles & Gomes, 2009; Kottasz, 2004; Eckel & Grossman, 2003; Gordon & Khumawala, 1999; Andreoni, 1990).

In order to meet research objectives, following hypothesis were proposed:
H 1. Marketing activities of non-profit organizations have a positive impact on donor's motivation
H 1.1. Core values (cause for support) perception has a positive impact on donor's motivation
H 1.2. Public credibility/visibility perception has a positive impact on donor's motivation
H 1.3. Donor's relationship perception has a positive impact on donor's motivation

3.2. Sample and questionnaire

The population of the study consisted of individuals and firms, who already have experience in donating to NPOs at least once. The questionnaire comprised of three parts, where the first part was designed to examine general data: type of donor as well as value and frequency of donation. Second part analyzed participants' perception of proposed marketing activities importance, while third part analyzed their motives to donate. Measurement scales for marketing activities (core value perception, public credibility/visibility perception and donor relationship perception) and donor's motivation were described previously. The level of agreement with items in marketing activities perception and motivation to donate were rated on the 5-point Likert scale, ranging from 1 (totally unimportant/disagree) to 5 (totally important/agree). In total, 171 respondents answered online questionnaire during May 2019. Final sample size was 155, as only participants who answered all question were included in analysis. Analysis of the obtained data was conducted by SPSS software.

3.3. Research results

The results of the descriptive analysis indicated a respondent profile, motivation to donate and perception for marketing activities elements as it is shown in Tables 1 to 5. According to the provided results (Table 1), the majority of respondents are individual donors (83.2%), with donation frequencies from two to three times per year (39.4%) and once or less per year (31.0%). Only 16.8% of respondents donate 6 and more times per year. Regarding average donation size, respondents generally donate less than 100 HRK (58.7%), while only 5.2% donate more than 2000 HRK. According to data, relatively small amounts are donated, but donation frequency is satisfactory (majority of respondents donate two or more times per year, 68.4%).

Table 1: Respondents' general information

	Frequency	%
Type of donor		
Individual donor	129	83.2
Corporative donor	26	16.8
Total	155	100.0

	Frequency	%
Donation frequency (per year) How often you donate (Annually)?		
No answer	1	0.6
Once or less	48	31.0
2-3 times	61	39.4
4-5 times	19	12.3
6 and more	26	16.8
Total	155	100.0
Average „size" of donation (in HRK)		
Up to 100	91	58.7
101-500	40	25.8
501-1000	10	6.5
1001-2000	6	3.9
2001 and more	8	5.2
Total	155	100.0

Source: empirical research

The donors' motivation basic statistics show mostly positive or neutral attitude, with the exception of personal benefit motive (DM 4) for which respondents express mostly disagreement (77.4%). The results of donors' motivation frequencies are shown in Table 2.

Table 2: Donors' motivation

Motives /frequencies	1 totally disagree	2 disagree	3 not agree nor dissa	4 agree	5 totally agree	TOTAL
DM 1 Involvement in community	12.3	12.9	30.3	30.3	14.2	100.00
DM 2 Right life choice	0	0	13.5	28.4	58.1	100.00
DM 3 Personal or family experience	16.1	18.1	25.8	26.5	13.5	100.00
DM 4 Future personal benefits (employment/tax deduction)	53.5	23.9	10.3	11.6	0.6	100.00
DM 5 Good feeling	0.6	3.2	11.6	34.2	50.3	100.00
DM 6 Religion	28.4	12.3	27.1	20.6	11.6	100.00

Source: empirical research

The highest motivation (Table 3) is related to a belief that donating is right life choice (4.45) and good feeling (4.30). Not surprisingly, lowest motivation is shown for personal benefit (1.82) and religion (2.75). The reason for this discrepancy could be found in social (in) acceptability of a „selfish"or a pragmatic motivation to donate. Therefore, respondents are not really objective in admitting importance of pragmatic motives to donate, even dough this research was anonymous. However, it can be concluded that emotional motives are higher rated than pragmatic ones.

Table 3: Donors' motivation (means and standard deviations)

DONOR MOTIVATION	N	Mean	Std.Dev.
DM 1 Involvement in community	155	3.21	1.206
DM 2 Right life choice	155	**4.45**	.722
DM 3 Personal or family experience	155	3.03	1.281
DM 4 Future personal benefits (employment/tax deduction)	155	1.82	1.066
DM 5 Good feeling	155	**4.30**	.848
DM 6 Religion	155	2.75	1.370

Source: empirical research

Marketing activities frequencies are shown in Table 4. Respondents evaluate core value perception items relatively important, i.e, more than 50% of respondents score with highest level of agreement for all items, except CVP 1. Simultaneously, public credibility perception has only two items generally evaluated as important (PCP 2 and PCP 3). Regarding donor's

relationship perception, it is important to notice that 75% of respondent do not evaluate public gratitude as an important tool for relationship building (DRP 6). All other items show relatively positive importance perception.

Table 4: Marketing activities

Marketing activities /frequencies	1 totally important	2 important	3 not important nor unimportant	4 important	5 totally important	TOTAL
CORE VALUE PERCEPTION (CVP)						
CVP 1 NPOs Mission and values are of high importance	1.9	9.7	47.1	41.3	1.9	100.00
CVP 2 NPOs Beneficiaries needs are of high importance	1.3	3.9	19.4	47.7	27.7	100.00
CVP 3 NPO uses donation for specific goals	1.3	4.5	19.4	36.1	38.7	100.00
CVP 4 History and credibility of NPO are spotless	1.9	6.5	22.6	35.5	33.5	100.00
CVP 5 Knowledge what will happen if NPO doesn't fulfill its goals	2.6	12.9	22.6	36.8	25.2	100.00
PUBLIC CREDIBILITY/VISIBILITY PERCEPTION (PCP)						
PCP 1 Previous recognition of NPO through media	18.7	22.6	23.2	25.2	10.3	100.00
PCP 2 Sufficient information about NPOs activities	5.2	11.6	23.9	45.8	13.5	100.00
PCP 3 Positive public image of NPO	3.2	8.4	27.7	38.7	21.9	100.00
PCP 4 NPOs social media activities	16.1	14.2	42.6	17.4	9.7	100.00
PCP 5 Possibility to donate through online channels	14.2	19.4	38.1	18.1	10.3	100.00
PCP 6 Direct contact and request to donate from NPO	12.9	25.8	38.7	16.8	5.8	100.00
PCP 7 NPOs celebrity supporters	29.0	34.8	25.8	7.1	3.2	100.00
DONOR RELATIONSHIP PERCEPTION (DRP)						
DRP 1 I will stop donate if other NPO need my support	3.9	9.0	29.7	40.6	16.8	100.00
DRP 2 I will stop donate if NPO doesn't provide financial report	9.7	12.3	34.8	35.5	7.7	100.00
DRP 3 I will stop donate if NPO spends funds on other than specific goal	1.9	9.0	18.7	34.2	36.1	100.00
DRP 4 I will stop donate if NPOs employees and volunteers mistreat me	4.5	9.7	32.9	38.1	14.8	100.00
DRP 5 I will stop donate if NPO suddenly changes their field of interest	3.9	2.6	20.0	33.5	40.0	100.00
DRP 6 I will stop donate if NPO doesn't give public gratitude to donors	43.2	32.3	16.1	7.1	1.3	100.00
DRP 7 I prefer to donate to NPO which actively communicate with me	5.2	15.5	29.7	36.1	13.5	100.00
DRP 8 I prefer to donate to NPO that I already know than the new one	5.2	6.5	27.1	40.0	21.3	100.00

Source: empirical research

Marketing activities descriptives (mean and standard deviation for three elements) are shown in Table 5. The highest individual item perception importance is for CVP 1 (4.28), following by another core value perception item, CVP 3 (4.06). All items in core value perception are in range from 3.69 to 4.28 which cannot be considered as important difference, and all show relative importance. Regarding public credibility, the differences are more obvious, with item mean ranging from 3.68 (PCP 3) to 2.21 (PCP 7). The reason could be in recent negative publicity for specific charitable campaigns in Croatia and lack of trust in public sector generally. In other words, all promotional activities NPOs use to increase or improve public visibility maybe have a negative (subjective) response, not directly as a result of NPOs' work. Undoubtedly, this is area that needs more nonprofit leaders' attention in order to improve. The highest difference is shown in donor relationship perception, with means ranging from 4.03 (DRP 5) to 1.91 (DRP 6). Lowest mean (1.91) is shown for importance of the NPO public gratitude toward donors, which is in accordance with the frequency for the same item. The importance of NPO focusing to main field of interest (DRP 5) should be emphasized, as some

NPOs are tempted by different influences to easily change it. Relatively high importance (3.94) of necessity to spend funds on specific goal (DRP 3) could be an argument to disproof such practice. According to all presented data, it can be concluded that proposed marketing activities are considered important.

Table 5: Marketing activities (means and standard deviations)

	N	Mean	Std.Dev.
CORE VALUE PROPOSITION (CVP)			
CVP 1 NPOs Mission and values are of high importance	155	**4.28**	.717
CVP 2 NPOs Beneficiaries needs are of high importance	155	3.97	.864
CVP 3 NPO uses donation for specific goals	155	**4.06**	.938
CVP 4 History and credibility of NPO are spotless	155	3.92	.997
CVP 5 Knowledge what will happen if NPO doesn't fulfill its goals	155	3.69	1.066
Valid N (listwise)	155		
PUBLIC CREDIBILITY/VISIBILITY PERCEPTION (PCP)			
PCP 1 Previous recognition of NPO through media	155	2.86	1.276
PCP 2 Sufficient information about NPOs activities	155	**3.51**	1.034
PCP 3 Positive public image of NPO	155	**3.68**	1.012
PCP 4 NPOs social media activities	155	2.90	1.161
PCP 5 Possibility to donate through online channels	155	2.91	1.164
PCP 6 Direct contact and request to donate from NPO	155	2.77	1.062
PCP 7 NPOs celebrity supporters	155	2.21	1.043
Valid N (listwise)	155		
DONOR RELATIONSHIP PERCEPTION (DRP)			
DRP 1 I will stop donate if other NPO need my support	155	3.57	1.000
DRP 2 I will stop donate if NPO doesn't provide financial report	155	3.19	1.070
DRP 3 I will stop donate if NPO spends funds on other than specific goal	155	**3.94**	1.042
DRP 4 I will stop donate if NPOs employees and volunteers mistreat me	155	3.49	1.009
DRP 5 I will stop donate if NPO suddenly changes their field of interest	155	**4.03**	1.028
DRP 6 I will stop donate if NPO doesn't give public gratitude to donors	155	1.91	.996
DRP 7 I prefer to donate to NPO which actively communicate with me	155	3.37	1.064
DRP 8 I prefer to donate to NPO that I already know than the new one	155	3.66	1.047
Valid N (listwise)	155		

Source: empirical research

In order to check validity of proposed hypothesis, new variable were constructed as a mean of all proposed items for each marketing activities element. Previously proposed measurement scales was checked for validity by calculating Cronbach alpha coefficients. All have acceptable Cronbach values (CVP: 0.741; PCP 0.733; DRP: 0.709) so in further analysis new variables are used (Table 6).

Table 6: New marketing activities variables descriptive

	N	Minimum	Maximum	Mean	Std. Deviation
CVPavg	155	2.20	5.00	3.9845	.64769
PCPavg	155	1.29	4.71	2.9760	.68894
DRPavg	155	1.38	4.50	3.3960	.59230
Valid N (listwise)	155				

Source: author research

In the following analysis, respondents were grouped based on their average score for perception of marketing activities, following specific criteria: negative (respondents with average score from 1 to 2.50) neutral (respondents with average score from 2.51 to 3.40), positive (respondents with average score from 3.41 to 5).

As normality assumption is violated, Kruskal-Wallis H rank-based nonparametric test was used, in order to determine if there are statistically significant differences between groups for each marketing activity. Donors motivation analysis and test significance for each marketing activity are shown in Tables 7, 9 and 11. Kruskal-Wallis mean rank, Chi square and degrees of freedom for items with significant differences are shown in Tables 8, 10 and 12.

Table 7: Descriptives and Kruskal Wallis test significance results for Core value perception (CVP) groups

DONOR MOTIVATION (difference between groups for CVP)	Negative CVP perception			Neutral CVP perception			Positive CVP perception			Kruskal Wallis test
	N	Mean	Std. Dev.	N	Mean	Std. Dev.	N	Mean	Std. Dev.	Sig.
DM 1 Involvement in community	**4**	**1.75**	**.957**	**31**	**3.29**	**1.131**	**120**	**3.24**	**1.209**	**0.067**
DM 2 Right life choice	4	4.25	.957	31	4.35	.798	120	4.47	.698	0.713
DM 3 Personal or family experience	4	2.50	1.291	31	3.06	1.289	120	3.04	1.286	0.706
DM 4 Future personal benefits (employment/tax deduction)	**4**	**1.00**	**.000**	**31**	**2.16**	**1.098**	**120**	**1.76**	**1.053**	**0.017**
DM 5 Good feeling	**4**	**4.25**	**.500**	**31**	**3.94**	**1.031**	**120**	**4.40**	**.782**	**0.050**
DM 6 Religion	4	2.50	1.291	31	2.77	1.431	120	2.75	1.367	0.943

Source: empirical research

It should be noted that positive group (for core values perception) doesn't have the highest donor's motivation mean for two statistically significant differences determined by Kruskal-Wallis H test (donor's motivation DM 1 at sig. level 10%, DM 4 at sig. 5%), while only for good feeling (DM 6 at sig. 5%) the highest mean rank was determined.

Table 8: Kruskal Wallis test results for Core value perception (CVP) groups

CVP group		N	Mean Rank
DM 1 Involvement in community (χ^2=5.407; df=2)	negative	4	28.13
	neutral	31	79.45
	positive	120	79.29
	Total	155	
DM 4 Future personal benefits (employment/tax deduction) (χ^2=8.203; df=2)	negative	4	42.00
	neutral	31	93.63
	positive	120	75.16
	Total	155	
DM 5 Good feeling (χ^2=5.972; df=2)	negative	4	67.38
	neutral	31	62.65
	positive	120	82.32
	Total	155	

Source: empirical research

Kruskal-Wallis H test shows that there are statistically significant differences (Table 7) for three motives to donate (DM1 at sig. 10%, DM 4 and DM 5 at sig. 5%) among the core value perception groups. The positive core values perception group (120) has the highest rank and mean rank for DM 5 (82.32), for DM 1 mean rank for positive and neutral group is almost the same (79.29; 79.45) while neutral group has the highest mean rank (93.63) for DM 4. Since mean ranks show mixed results, it can be concluded that core value perception only partially impacts donors' motivation which is combination of emotional and pragmatic motives. It can

be argued by core values and mission association, regardless of the roots of donors' motivation. Core values perception should be about organization and its core values, (expressed by NPO's case for support), which leads directly to business performance mainly focused to beneficiaries. Therefore, *hypothesis H 1.1. Core values perception has positive impact on donor's motivation cannot be accepted.*

Table 9: Descriptives and Kruskal Wallis test significance results for Public credibility/visibility perception (PCP) groups

PUBLIC CREDIBILITY/VISIBILITY PERCEPTION (difference between groups for PCP)	Negative PCP perception			Neutral PCP perception			Positive PCP perception			Kruskal Wallis test
	N	Mean	Std. Dev.	N	Mean	Std. Dev.	N	Mean	Std. Dev.	Sig.
DM 1 Involvement in community	**38**	**2.92**	**1.323**	**72**	**3.17**	**1.151**	**45**	**3.53**	**1.140**	**0.072**
DM 2 Right life choice	38	4.61	.638	72	4.37	.740	45	4.42	.753	0.265
DM 3 Personal or family experience	**38**	**2.68**	**1.358**	**72**	**2.99**	**1.169**	**45**	**3.40**	**1.321**	**0.034**
DM 4 Future personal benefits (employment/tax deduction)	**38**	**1.45**	**.795**	**72**	**1.86**	**1.092**	**45**	**2.07**	**1.156**	**0.025**
DM 5 Good feeling	38	4.05	1.089	72	4.40	.744	45	4.36	.743	0.383
DM 6 Religion	**38**	**1.82**	**1.205**	**72**	**3.03**	**1.222**	**45**	**3.09**	**1.395**	**0.000**

Source: empirical research

Results in Table 9 indicate that the group with positive perception (for public credibility/visibility) has the highest donors motivation mean for all statistically significant differences, determined with the Kruskal-Wallis H test (donor's motivation DM1 at sig. 10%, DM 3, DM 4 and DM 6 at sig. 5%).

Table 10: Kruskal-Wallis test results for Public credibility/visibility perception (PCP) groups

PCP group		N	Mean Rank
DM 1 Involvement in community (χ^2=5.275; df=2)	negative	38	68.75
	neutral	72	75.51
	positive	45	89.80
	Total	155	
DM 3 Personal or family experience (χ^2=6.786; df=2)	negative	38	66.47
	neutral	72	75.93
	positive	45	91.04
	Total	155	
DM 4 Future personal benefits (employment/tax deduction) (χ^2=7.353; df=2)	negative	38	63.30
	neutral	72	80.01
	positive	45	87.19
	Total	155	
DM 6 Religion (χ^2=23.606; df=2)	negative	38	48.17
	neutral	72	86.76
	positive	45	89.17
	Total	155	

Source: empirical research

It should be noted that the group with the neutral public credibility/visibility perception (72) is the largest one, with only small differences in size of the positive (45) and the negative (38)

group. The mean rank for all donor's motivation items regarding determined statistical difference among groups, is highest in the positive perception group (for public credibility/visibility); DM 1 (89.80), DM 3 (91.04), DM 4 (87.19) and DM 6 (89.17). According to the Kruskal-Wallis H test and mean rank differences it can be concluded that the majority of proposed motives to donate are influenced by public credibility/visibility perception, with the domination of pragmatic motives (DM 1, DM 4 and DM 6). Only DM 3 (as emotional motive) is impacted with public credibility/visibility perception of donors while other emotional motives (DM 2 and DM 5) are not affected by public credibility/visibility perception. Therefore, hypothesis *H 1.2. Public credibility/visibility perception has positive impact on donor's motivation can be partially accepted.*

Table 11: Descriptives and Kruskal Wallis test significance results for Donors relationship perception (DRP) groups

DONOR RELATIONSHIP PERCEPTION (difference between groups for DRP)	Negative DRP perception			Neutral DRP perception			Positive DRP perception			Kruskal Wallis test
	N	Mean	Std. Dev.	N	Mean	Std. Dev.	N	Mean	Std. Dev.	Sig.
DM 1 Involvement in community	**12**	**3.08**	**1.165**	**57**	**2.95**	**1.231**	**86**	**3.41**	**1.172**	**0.072**
DM 2 Right life choice	12	4.50	.674	57	4.44	.708	86	4.44	.745	0.970
DM 3 Personal or family experience	12	2.33	1.497	57	2.98	1.188	86	3.16	1.291	0.121
DM 4 Future personal benefits (employment/tax deduction)	12	1.67	1.073	57	1.60	.863	86	1.99	1.163	0.198
DM 5 Good feeling	**12**	**2.92**	**1.165**	**57**	**4.37**	**.698**	**86**	**4.45**	**.714**	**0.000**
DM 6 Religion	**12**	**1.83**	**1.337**	**57**	**2.89**	**1.249**	**86**	**2.78**	**1.418**	**0.061**

Source: empirical research

According to descriptives and Kruskal-Wallis H test significance, the group with positive donor relationship perception has the highest donor's motivation mean for two statistically significant differences (DM1 at sig. of 10%, DM 4 at sig. 5%), while for the donor's religious motivation (DM 6 at sig. 5%) the highest mean was determined for the neutral group, according to donor's relationship perception.

Table 12: Kruskal-Wallis test results for Donor relationship perception (DRP) groups

DRP group		N	Mean Rank
DM 1 Involvement in community (χ^2=5.272; df=2)	negative	12	70.50
	neutral	57	68.76
	positive	86	85.17
	Total	155	
DM 5 Good feeling (χ^2=20.269; df=2)	negative	12	27.75
	neutral	57	78.82
	positive	86	84.47
	Total	155	
DM 6 Religion (χ^2=5.580; df=2)	negative	12	49.88
	neutral	57	82.25
	positive	86	79.11
	Total	155	

Source: empirical research

The group of donors with positive donor relationship perception (86) has the highest rank and the mean rank for DM 1 (85.17) and DM 5 (84.47), while, for DM 6, neutral group has the highest mean rank (82.25). According to results, it can be concluded that motives are partially impacted by the donor relationship perception, from which two are pragmatic (D1 and D6), and one is emotional (DM 5). It is interesting that donors' relationship perception has no impact on future personal benefit, as a pragmatic motive to donate. In a direct relationship, this pragmatic motive can be explained and understanded correctly and negative image (or something that is not socially acceptable) can be removed from it. Accordingly, *hypothesis H 1.3. Donor's relationship perception has positive impact on donors motivation can be partially accepted.* Summary of significant effects of marketing activities perception on donor's motivation is presented in Table 13 (with sig. 10% marked in light gray, and sig. 5% marked in dark grey).

Table 13: Summarized results for significant differences between groups

Type of motive	DONOR RELATIONSHIP PERCEPTION	CVP	PCP	DRP
pragmatic	**DM 1 Involvement in community**	▨	▨	▨
emotional	DM 2 Right life choice			
emotional	DM 3 Personal or family experience		▩	
pragmatic	**DM 4 Future personal benefits** (employment/tax deduction)	▩	▩	
emotional	**DM 5 Good feeling**	▩		▩
pragmatic	**DM 6 Religion**		▩	▩

Source: empirical research

4. Conclusion

This study examines the impact of proposed marketing activities to donors' motivation. Framework for research was based on marketing activities classification to three elements: core values perception, public credibility/visibility perception and donor relationship perception. The results show that all proposed marketing activities elements have an impact only on a single motive (involvement in community). For three motives (future personal benefit, good feeling and religion) two elements could be important, while for one (personal or family experience) only public credibility/visibility is of importance. It should be noted that proposed activities have no impact on one motive (beliefs that to donate is right life choice).

To summarize, proposed activities have partial effect on motives to donate (with exception of one), where PCP is found to be more important for emotional and pragmatic motives (one can identify himself with NPO work through promotional activities), than CVP and DRP. Howewer, results showed that elements' impact varies among motives, so using combination to influence a wide range of motives may improve the fundraising performance of NPOs with a high entrepreneurial intent and orientation. Despite inconsistent findings, marketing activities surely impact donor's motivation, but this relationship should be further investigated. Reason for inconsistent findings could be in research limitations: small sample of donors from one country, insufficient data to classify donors by field of interest (in order to link them to motives) and small share of corporate donors. It would be of importance for future research to focus more on causality between proposed variables, trying to determine and operationalize key elements of marketing activities that impact donor's motivation. The future studies could use larger representative sample, include respondents from countries with highly developed philanthropic

culture, segment donors by market criteria (demographic, psychographic). Nevertheless, since use of business practice and entrepreneurial mindset in nonprofit sector shows lack of theoretical and empirical models, which are aligned with marketing theories, the need for research which would explain the impact of marketing activities on donors' motivation are more than welcome. Fundraising success is one of major key success factors in NPO, so it is of great importance to determine relationship between proposed variables. Accordingly, this study is contributing to the existing body of knowledge as a foundation to build conceptual framework of marketing activities and donor motivation relationship. A practical implication of this study is related to „business capability" and marketing activities implementation in nonprofit organizations by providing practicionists valuable information to implement in their specific activities while trying to motivate and retain donors.

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THE INFLUENCE OF GENDER IN M-RETAIL PURCHASING PATTERNS

ABSTRACT

There is a growing number of smartphone users worldwide. Smartphone represents a mean which provides many advantages when using the Internet. Users can get information, shop and explore goods and services on their devices. The development of the mobile industry, the decrease of smartphones costs and development of Broadband Internet Access are important factors stimulating the growing number of smartphone users throughout the world. The increasing number of smartphone users is a fact that is most appealing to the retail sector, which sees the opportunity of transferring purchasing activities to the new Internet niche. The scientific literature review on Internet purchasing behaviour has shown that gender is the key difference in studies by many scholars when analysing different consumer behaviours. Current literature on purchasing patterns has shown that men and women act differently as consumers. Due to the fact that purchasing via smartphones is enabled at any place and at any time, smartphones have become a significant link between retailers and the end users. The research conducted on a sample of 470 Croatian consumers explored the gender influence on purchasing behaviour when shopping on smartphones. The results of conducted research indicated the fact that there is a significant difference between male and female consumers in Croatia when using smartphones and the items of their purchase.

Key words*: m-retail, purchasing, gender*

1. Introduction

With the development of smartphones and Internet, the society has made another progressive step to a limitless possibility of access to different spheres of interests on the Internet. Today's society, is generally speaking, a society which accepts and lives with constant technology and digital innovations. Digital innovations enable many advantages, for instance, before the Internet information about weather forecast were available on the radio and/or television but, today, people can have various applications which use their user's locations and provide information about weather at any time and at any location. As a result of its recently economical price the smartphones have stopped being a matter of "luxury ", as they were in the past decades (Abdelkarim and Nasereddin, 2010, 51). Handley (2019) estimated for 2019 that 2 billion people will use Internet only on smartphones, which is 51 percent of the global 3.9 billion smartphone users' basis. Handely (2019) also pointed out that by 2025, 72.6 % of Internet users will use Internet only on smartphones, which is approximately 3.7 billion people from all over the world. In line with the current knowledge, the basis of conducted research for this paper

were: the rapid growth of smartphone users, the time spent on smartphone, the usage of smartphone among other possibilities and, which is the most relevant for the purpose of this study, the gender difference when purchasing products on smartphones. Mentioned were also the motivating factors for conducting the presented research. The aim of the research presented in this paper was exploration of the gender influence on purchasing behaviour when shopping occurs via smartphones and to comprehend gender differences in the items purchased using smartphones. The research findings should help retailers in the Croatian market to better understand the specific niche of m-retailing. In order to fill the gaps about m-retailing, the paper begins with a brief theoretical explanation based on the relevant literature about smartphone users' behaviour regardless of the gender and specific to gender. The literature presented is based on papers published by researches from developed countries, while it is relevant to point out that for the Republic of Croatia there is literature relevant for this topic but that it still has room to improve in forthcoming papers. Ultimately, the theoretical explanations and exploration findings are presented, as well as recommendations for future researches.

2. The behaviour of smartphone users

According to Computer Hope (2019), smartphone is a phone which includes more activities than just sending and receiving messages and calls. Smartphone enables Internet use and programmes exactly like a computer. Slocum (2019) emphasized how an average person cannot imagine a single day without a smartphone. For them smartphones and texting on smartphone have become common activities. A thesis has BEEN proven that if a user hasn't used a smartphone for a longer time, he or she is less likely to have the urge of using a smartphone in the future. The same research indicates that smartphones have to be adapted to users by tools which will track their Internet behaviour (Falaki et al. 2010, 194). Forrester's Consumer research from 2016 identified the most common activities on smartphone as: product search (47%), sending and receiving of business e-mails (40%), listening to music (40%), shopping (29%) and watching videos (29%). Also 93 % of examinees responded "yes" to Internet access as an answer to the question "What do you use smartphone most often for", which proves that smartphone means something more than sending and receiving messages and calls (Marketing Charts, 2019). Smartphone enables connection, communication without people's physical presence. It represents today's method of retaining numerous social links between individuals who do not have to see each other and the speed of communication is recognized as significantly different than in computers or laptops. Fun, efficiency and many other activities are responsible for the growth of the smartphone users` number (Jesensky, 2013). For every minute spent on Internet, 6 minutes are spent on applications, as well. The question is what makes the applications so relevant. Edmonds (2018) analysed data from Google and pointed out shopping as the most frequent activity on smartphone. According to Deloitte, 57 % of examinees read news on the apps, 45 % listen to music and 31% watch movies (Edmonds, 2018). Lozano (2016) warns about the shocking fact of how present smartphone is in human life. In his research, certain examinees consider smartphone more important than family, friends and partners. In the research of Universities in Würzburg and Nottingham Trent, scientists concluded that one third of examinees rated their smartphone more and equally important as close friends (Lozano, 2016).

Since 4G technology was introduced, which enabled faster Internet activities, the smartphone has become a synonym for the Internet (Hern, 2015). Smartphones are used by all groups, regardless of gender, age, income, education and regional division. The use of smartphones can have negative consequences, as well. Men and women use smartphone equally, men usually for games and women for multimedia and social media. The number of minutes spent by users on smartphone has been growing and it is recognized as an addiction too. Types of addiction to

smartphone are identified as depression, anxiety and insomnia. Women who are addicted to smartphone have shown higher level of depression as opposed to men (Chen et al. 2017, 8).

3. Literature review on smartphone users' purchasing behaviour-gender differences

Before the Internet and smartphones, consumers had one option, to come to a store and ask information from a salesperson. Mobile technology has been gaining more and more markets throughout the world. The most common classification of smartphone users is in regard to their gender, age, income, region and education. Silver (2019) explains that the gender has only a restricted role in the explanation of the differences in the technological use in most of the countries. According to Silver (2019), whether it is a developed or a developing country, men and women use smartphones equally. Women are more socially oriented when it comes to the use of smartphones, unlike men who are more focused on games or gambling when using smartphones. Van Deursen et al., (2015, 411) conducted a research that has shown that men are more likely to develop an addiction to smartphones than women. Bux et al. (2019, 48) found that when it comes to smartphone usage, gender represents a significant factor. They argue that men perceive the use of smartphones in relation to usefulness it provides and women, on the other hand, in relation to a rather easy access to information. Park and Lee (2014, 2) analysed gender differences and found out that women usually use smartphones to communicate with friends and to keep up social interaction. According to that research, men use smartphones for information and fun. Women use smartphones to express emotions and to preserve social links and they also tend to receive support and positive comments on social media more than men (Park and Lee, 2014, 2). Human adaptation to new technologies is getting faster and faster every day, according to smartphone usage. People use smartphones more and more to search for products and services. Fallows (2005, 2) pointed out that the ratio of women who use Internet on smartphones is equal to the ratio of men using it. The paper published in 2015 by Ahmet et al. (2015, 34) found that the person using Internet most frequently was a man from a wealthier family and with high income. In the past men used Internet more often than women but the situation has changed.

According to the research of Nielsen Media in 2018, women use smartphones more than men. Women use smartphone 4% more than men and when it comes to tablets, the percentage is a little higher (6%). (Marketing Charts, 2019)

A research was conducted among male and female students in Greece and it discovered that both genders use smartphones primarily to send and receive messages and calls. One of the explanations might be their inexperience and unfamiliarity with using smartphones for other services, such as Internet (Economides and Grousopoulou, 2008, 746).

In 2008, the use of smartphones was less than 10% and "regular" phones had the share of 70% (Medina, 2018). This might be the reason why students in Greece gave answers which are inconceivable today. In 2012, smartphones gained popularity, due to the introduction of the Broadband Internet. It is interesting to point out for the subject of this paper that Lebanon is the only country in the world whose citizens use computers or laptops more than smartphones for the Internet research, in the ratio of 57%. In most of the countries smartphones are used equally by men and women, which is not the case in countries like India (Silver et. al, 2019).

Due to the different results of the research conducted so far, this topic remains relevant for further research, the existing literature and researches are limited because they give different results in most of the cases.

4. Method of research

A study was conducted among Croatian consumers to explore the gender influence on purchasing behaviour when they shop via smartphones. A survey method was used on a sample of 470 consumers. In order to reach the target group of examinees, the survey was intendedly forwarded to the examinees from different geographic regions of Croatia, different age and gender, to create a sample based on the entire population of Croatia. The age and gender groups were included in equal shares. In reaching the target group of examinees, data were used from different Facebook groups, such as Croatian pensioners, Croatian student groups, and included all Croatian Regional groups present on Facebook.

The survey was conducted through social media, like Facebook. Data were collected in the period from March to April 2019, on a Google questionnaire which was comprised of 12 questions, out of which 5 were demographic type of questions and 7 were questions about m-retail.

Table 1: Demographic characteristics of examinees

Gender	Male	45,11%
	Female	54,89%
	No response	0,00%
Age	20-25	55,11%
	26-30	16,17%
	31-35	10,43%
	36-40	8,94%
	More than 41	9,15%
Education	No response	0,21%
	Primary school	1,70%
	High school	50,21%
	Higher education	48,09%
	No response	0,00%
Personal Income	No income	21,70%
	2000 kn and less	15,32%
	2001 and 5000kn	25,74%
	5001 and 8000kn	24,04%
	8001 and 10000kn	7,45%
	10.001kn and more	5,74%
	No response	0,00%
Region	Central Croatia	22,13%
	Dalmatia	37,66%
	Istria	10,00%
	Međimurje	11,49%
	Gorski kotar and Lika	8,51%
	Slavonia	10,21%
	No response	0,00%

Source: authors

Table 1 shows the demographic characteristics of 470 examinees who participated in this research. As it can be seen from Table 1, for the purpose of this research, focus was on "broader" characteristics which describe the profile of examinees, i.e. their gender, age, education, monthly personal income and region, in percentages that are satisfactory for the purpose of this research. Male examinees took part in this study with 45.11 % and female with 54.98 %, which is acceptable for the purpose of the survey.

5. Results and discussion

Table 2 shows how many hours daily male and female examinees spend on their smartphones. It is noticeable that men usually spend 2 to 3 hours on smartphones-32.08% of male examinees and 27.83% of them more than 4 hours. While 37.21% of female examinees spend more than four hours on smartphones. This is a good indicator for m-retailers, as according to results, majority of examinees use smartphones more than 3 hours on a daily basis, regardless of their gender.

Table 2: Dependence of the time spent daily on smartphones in relation to the gender of examinees

	Male	Female
I do not use Internet on smartphones	1,89%	0,00%
I do not connect on a daily basis	2,83%	0,00%
less than an hour	11,79%	4,65%
2 to 3 hours	32,08%	30,62%
3 to 4 hours	23,58%	27,13%
More than 4 hours	27,83%	37,21%
No response	0,00%	0,39%
	100,00%	100,00%

Source: authors

Presented lower in Table 3, female examinees purchase on smartphones more than male. As a result of the survey 77.52% of female examinees purchase regularly on smartphones as opposed to 71.23% of the male. Presented data can provide an additional motivation to Croatian retailers as a motive for improvement and reinforcement of their m-retail. When we compare results from Tables 2 and 3, we can conclude that female examinees spend more time on their smartphones driven by purchasing motives.
According to these indicators, the Croatian consumers are already aware of the m-retail benefits.

Table 3: The use of smartphones for shopping in relation to the gender of the examinees

	Male	Female
Yes	71,23%	77,52%
No	28,77%	22,48%
No response	100,00%	100,00%

Source: authors

Further answers about the most frequent products purchased on the Internet by smartphones are presented in Table 4. As previously noticed, male examinees spend less time on smartphones and purchase less, but when they do so, 24.06% of male examinees usually purchase "other" products and technical equipment with 18.87% of them. As expected, female examinees usually purchase clothes and footwear (42.25%), and "other" products (24.03%). A recommendation based on these results would be that the Croatian m-retailers should concentrate on "other" products (usually so-called sundry products that don't fit in any standard category and are

considered as small items of small value), and especially the product group apparel and footwear and technical equipment when selling via mobile applications.

Table 4: The most common item of online purchase in relation to the gender of the examinees

	Male	Female
Sports equipment	5,66%	1,16%
Technical equipment	18,87%	2,71%
Jewellery and watches	1,89%	7,75%
Clothes and Footwear	14,62%	42,25%
Cosmetics and health	0,94%	8,53%
Furniture and home furnishing	4,25%	0,78%
Car accessories	4,25%	0,39%
Music, games, videogames and movies	5,66%	2,71%
Household items	4,72%	1,16%
Food products	0,94%	0,78%
Other	24,06%	24,03%
No response	14,15%	7,75%
	100,00%	100,00%

Source: authors

The results obtained indicate that female examinees usually spend more than 4 hours on smartphones (37.21%) and the male ones 2 to 3 hours (32.08%). When comparing these results with the research of comScore Mobile Metrix in Great Britain from 2017, they are complementary. According to the results from 2017, women spend more time on smartphones than men (women spend 3 hours on smartphones and men half an hour less) (Carson, 2018). Women from Croatia and Great Britain spend more time on smartphones than men. In the research conducted on the Croatian market, majority of male examinees (71.23%) and female (77.52%) use smartphones for shopping. These data can be noticed in other researches, as well.

6. Conclusion

Smartphones have become a synonym for modern communication, research, shopping and various other activities. There is a growing need of retailers, marketers and many others to comprehend the smartphone users' behaviour. It is in interest of all supply chain participants to understand and identify consumers' "new" habits and reasons of visiting a particular Internet site. The aim of this report was to explore the purchasing behaviour of examinees in relation to gender and to comprehend the difference between their habits while using smartphones. The research conducted among the Croatian smartphones users showed that women tend to use smartphones more frequently than men. Great majority of men and women use smartphones for shopping. For female study participants, the most common item of purchase are clothes, and, for male technical equipment and "other" products, i.e. products which were not listed as answers. Based on the obtained study results, m-retailers or retailers who want to upgrade their current market position by using a mobile app should concentrate more on fashion items for female consumers and on technical or some other specific products for male consumers. This study can help retailers and others interested in m-retailing on the Croatian market and encourage them to deal with this new and specific Internet niche, which is still unknown and risky to the majority of them. The m-retailers have to understand that despite the differences

noted, gender is not a crucial characteristic when purchasing and that they should focus on both genders. Although this paper and the conducted research provide certain explanations, the limitation which the future researches have to take into account is the item of purchase, i.e. the examinees should be offered the possibility to specify an item of purchase by themselves in order to get a clearer picture of their specific needs. In order not to generalize all the product groups and to avoid misinterpretation of results, a written specific item of purchase would give more precise and secure results of examinees frequent purchases on smartphone devices. In addition, it must be emphasized that the research was conducted by an online survey, which is anonymous and there is a possibility of impersonation. Research conducted in a direct contact would give "more secure" results. As m-retailing is, at the time of conducting this research, still in the stage of development on the Croatian retail market, numerous researches are yet to be produced, which will definitely complement current researches and deepen the knowledge of the online purchasing patterns.

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A scientific paper

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ENTREPRENEURIAL ECOSYSTEM OF THE CITY OF ZAGREB AND OPPORTUNITIES FOR IMPROVEMENT

ABSTRACT

The aim of this paper is to provide the analysis of the current state of small and medium entrepreneurship, the assessment of local support measures for entrepreneurship and the components of the Zagreb entrepreneurial ecosystem in development, as well as proposals for its improvement. The content structure includes five parts, in which, after introductory remarks and theoretical background, the entrepreneurial environment and the importance of the SME sector in the economy of Zagreb and Croatia are analyzed, as well as indicators of the Zagreb entrepreneurial environment and the results of a survey of entrepreneurs' opinions. The fourth part discusses the measures of city support for entrepreneurship and the Zagreb ecosystem with the analysis of strengths, weaknesses, opportunities and threats. Finally, conclusion and recommendations are made for improving the local entrepreneurial ecosystem in order to make the city a more competitive place with better conditions for running businesses and for the growth of the economy. Methodological pluralism is used in the paper: quantitative, qualitative, comparative, as well as inductive and deductive research methods. Although the authors rely mainly on the quantitative methodology, they also advocate a qualitative approach to research. Hence, the authors use a survey method, which provided not only quantitative results, but also qualitative proposals for the ecosystem improvement from the entrepreneurs themselves.

Key words: *entrepreneurial ecosystem, entrepreneurship, entrepreneurial infrastructure, support for entrepreneurs, City of Zagreb.*

1. Introduction

Entrepreneurship is an extremely important generator of economic, and thus of general social development. Therefore, the entrepreneurial ecosystem with all the conditions in which entrepreneurship operates should represent one of the strategic development goals of national economies around the world, including Croatia and all its regions, cities and municipalities. In counties and cities, this seems all the more important due to the reason that real development, innovative and other entrepreneurship take place in specific space and time.

The entrepreneurial ecosystem is a fairly comprehensive and complex phenomenon. The subject of this research is to determine the extent to which this system, with all its components is developed, stimulating or limiting in the City of Zagreb, what are its characteristics and what should be changed to improve it. However, it should be noted that a city or a county is by no means an isolated community, because the conditions in which entrepreneurs operate are certainly influenced by the national entrepreneurial environment (legal and regulatory framework, financing, entrepreneurship education, attitude towards innovators, etc.).

The content structure of the paper, in addition to the introduction and theoretical background, consists of five parts: analysis of the situation and significance of small and medium-sized enterprises (SME) sector in the City of Zagreb, indicators of the city's competitiveness with the emphasis on indicators of the entrepreneurial environment and business sector and the results of a survey on the opinion of the entrepreneurs themselves, through current implementation measures to encourage the development of SME to SWOT analysis and conclusion with recommendations for improvement of the entrepreneurial ecosystem.

The paper uses several research methods such as: quantitative and qualitative method, comparative, as well as inductive and deductive method of analysis. The quantitative and comparative research method helps to look at the state of the SME sector and current indicators of the business environment, as well as to evaluate ongoing measures to stimulate the development of SMEs, the entrepreneurial infrastructure and the backbone of the entrepreneurial ecosystem. Qualitative, inductive and deductive research methods have been used (in addition to quantitative) in the survey of entrepreneurs themselves, especially in the part of entrepreneurs' proposals for improving business conditions and for the development of SWOT analysis and recommendations for improvement. Data sources used are: aggregated data of the financial agency on annual business results, statistical releases, a field survey, data from the ministry on entrepreneurial support institutions and data from the city office on measures to encourage entrepreneurship and the entrepreneurs themselves at the city level.

Croatia monitors the quality of the environment in which SMEs operate, based the methodology of international research, such as: Doing Business by World Bank, Global Competitiveness Report by World Economic Forum, GEM - Global Entrepreneurship Monitor by Global Entrepreneurship Research Association Consortium, European Semester Report and SBA Fact Sheet by European Commission, Corruption Perceptions Index by Transparency International. The annual report on small and medium enterprises in Croatia is prepared by CEPOR - the Center for policy development of small and medium enterprises and entrepreneurship.

However, when it comes to examining the state of this economy sector at a regional and local level, especially with an attempt to influence public policies, research is very scarce. At the regional level, the exception is the Regional Competitiveness Index of the National Competitiveness Council. In fact, there are no such surveys, especially those conducted on a regular basis, at the level of the City of Zagreb, as well as in other cities and municipalities in Croatia. Data from secondary sources or specific studies are also used here: Analysis of macroeconomic development and financial results of entrepreneurs of the City of Zagreb for 2018, Analysis of financial results of business of entrepreneurs of the Republic of Croatia by counties for 2018, Program for encouraging the development of crafts, small and medium enterprises in the City of Zagreb in 2019 – 2023, business reports from the Management board of the Zagreb Innovation Center, the Opinion survey of entrepreneurs of the City of Zagreb in 2016 and the Regional Competitiveness Index of Croatia - by County 2013, from the National

Competitiveness Council. Such research is needed in order to achieve a better understanding of this social phenomenon, to formulate proposals for its improvement, to improve research methodology, and to share good practice.

2. Theoretical foundations of the entrepreneurial ecosystem

Entrepreneurship is not a new phenomenon - it has existed throughout the history of the human race; however, the rules of entrepreneurial activity have changed. Entrepreneurship has also been researched by many authors. As early as the Middle Ages, Benedikt Kotruljević (1400 - 1468) of Dubrovnik in his work "On Trade and the Perfect Merchant" (1458) tried to define the perfect merchant in the conditions of insecurity, risk and uncertainty of sales (Buble, Buble, 2014, 8). Kotruljević described the entrepreneur as a person who buys at known and sells at unknown prices. Many years later, Adam Smith (1723 - 1790), as one of the most prominent representatives of the British classical political economy, in his famous work „An Inquiry into the Nature and Causes of the Wealth of Nations", advocates entrepreneurship as the best driver of economic development and the wealth of society, with the entrepreneur collecting profit as a reward for his risk (Ibidem, 9). Joseph Alois Schumpeter (1883 - 1950), an American economist of Austrian descent, researched entrepreneurship and is considered by many to be the father of entrepreneurship theory (Ibidem, 9). In his opinion, an entrepreneur is a person who engages creative forces and therefore he treats him as an innovator introducing new combinations of factors of production: new product, new quality, new production or sales method, new market, new organization, etc. (Ibidem, 9).

The modern era of entrepreneurship is linked to Peter Drucker (1909 - 2005) and his followers, according to whom the most important task of entrepreneurs is to create something new, in a way that is different and better than the existing one. "The main determinant of entrepreneurial behavior is the search for change, responding to change and using it as an opportunity" (Drucker, 1992, 33).
Without diving deeper into the theory of entrepreneurship, these indications are more than enough to show the importance of entrepreneurship and entrepreneurs in economic development. Croatian authors have also written about the theory and application of entrepreneurship as a factor of economic development: Z. Baletić (1990.), Đ. Njavro and V. Franičević (1990.), M. Škrtić (2011.), M. Kolaković (2006.), M. Bartoluci (2013.), M. i M. Buble (2014.) and others. All the above authors advocate entrepreneurship as the basis of economic development in different sectors and industries. Entrepreneurship as a concept of development finds its application in small, medium and large enterprises, in for-profit and non-profit industries.

The entrepreneurial ecosystem or ecosystem of entrepreneurship, is a social and economic environment that affects local, regional and national economy. The term "entrepreneurial ecosystem" began its scarce appearances in Scopus and Web of Science databases in the period 2000 to 2009, with the more and more frequent us in papers after 2010. The „entrepreneurial ecosystem" is first defined by Isenberg (2010), according to whom "The entrepreneurship ecosystem consists of a set of individual elements—such as leadership, culture, capital markets, and open☐minded customers—that combine in complex ways (Isenberg, 2010, cited in Malecki, 2017, 6).
"Although combinations of components of the entrepreneurial ecosystem are always unique, for self-sustainable entrepreneurship to exist, good policy, market, capital, human skills, culture and support are required" (Isenberg, 2011, cited in Ibidem, 6). The same author further states: "By definition an ecosystem is a dynamic, self-regulating network of many different

types of actors. In every entrepreneurship hotspot, there are important connectors and influencers who may not be entrepreneurs themselves" (Isenberg, 2014, cited in Ibidem, 6).

Mazzarol believes that the concept of an 'entrepreneurial ecosystem' refers to the interaction that takes place between a range of institutional and individual stakeholders so as to foster entrepreneurship, innovation and SME growth (Mazzarol, 2014, 5).

The Boulder thesis states that a prosperous ecosystem has four characteristics: (a) it is led by entrepreneurs; (b) it is inclusive, everyone is welcomed; (c) the involved people are committed in the long term (at least 20 years) to the ecosystem; and (d) there are many opportunities for gathering, that is, a lot of events (Feld, 2012, 25–28).

In the broader definition of the entrepreneurial ecosystem, some authors consider it to be "A set of interconnected entrepreneurial actors (both potential and existing), entrepreneurial organizations (e.g., firms, venture capitalists, business angels, and banks), institutions (universities, public sector agencies, and financial bodies), and entrepreneurial processes (e.g., the business birth rate, numbers of high growth firms, levels of "blockbuster entrepreneurship," number of serial entrepreneurs, degree of sell-out mentality within firms, and levels of entrepreneurial ambition) which formally and informally coalesce to connect, mediate and govern the performance within the local entrepreneurial environment (Mason, Brown, 2014, cited in Malecki, 2017,6).

Stam holds that „The systemic conditions are the heart of the ecosystem: networks of entrepreneurs, leadership, finance, talent, knowledge, and support services. The presence of these elements and the interaction between them predominantly determine the success of the ecosystem (Stam, 2015, cited in Ibidem, 6).

However, "The snapshot of the ecosystem in a certain moment is not enough, and the dynamics of ecosystem development should be explored. Ecosystems must be evaluated over the years, over a longer period in which the process of their maturation must be observed" (Curier, Kon, 2018, 5).

We define entrepreneurial ecosystem as a set of institutional and other systemic policies and factors in the social environment, which seek to be mutually compatible to achieve the goal of creating the conditions for productive entrepreneurship in a particular area.

When it comes to the existing scientific papers on the topic of the entrepreneurial ecosystem in Croatia, they are almost non-existent, since this concept has only been used here for the last few years, especially when it comes to discussions on the economic development policy. As mentioned, the quality of the entrepreneurial environment in which SMEs operate is monitored in Croatia, based on the methodology of international research, among which GEM - Global Entrepreneurship Monitor research, conducted since 2002, stands out. A group of experts, including scientists engaged in research on entrepreneurship, participate in the observation of this research and thus make a significant contribution to the development of entrepreneurship and the entrepreneurial ecosystem in the Republic of Croatia.

The GEM Croatia 2018 study concludes that "The entrepreneurial environment in Croatia still has a more restrictive rather than stimulating effect on entrepreneurial activity. According to experts, only two components (availability and quality of physical infrastructure - telecommunication and transport and domestic market dynamics) have a *stimulating* effect on entrepreneurial activity. Particularly *limiting* components of the entrepreneurial environment are government policies under the regulatory framework, the presence of significant barriers to market entry, low levels of research transfer to the business sector, cultural and social norms (value system), and insufficient primary and secondary education contribution to youth entrepreneurial competencies" (Singer et.al, 2019, 107). Based on such research at the national level, evidence-based policies can be formulated to enhance the context of entrepreneurship by removing identified bottlenecks.

At the local or large cities level, such research is not being conducted in Croatia, and when it comes to the entrepreneurial ecosystem, it mainly relies on the policy of developing entrepreneurial infrastructure, especially entrepreneurial zones and various direct measures to support the development of small and medium-sized enterprises. The topic of this paper is related to the Zagreb entrepreneurial ecosystem, its limitations, the construction of entrepreneurial infrastructure and other local entrepreneurship support.

3. Entrepreneurial environment in the City of Zagreb

Legislative and strategic framework for the development of SMEs in Croatia is represented by documents at the national level, such as the Law on Encouraging the Development of Small Businesses (The Official Gazette of the Republic of Croatia No. 136/2013), the Law on Improvement of Entrepreneurial Infrastructure and the Development Strategy of the City of Zagreb for the period 2013 - 2020. European strategic documents in this area emphasize prioritizing action to unleash European entrepreneurial potential, reduce regulatory burdens, improve access to finance and facilitate access to markets and internationalization, with the aim of creating a friendly entrepreneurial environment for the growth and development of existing ones, as well as for the creation of new entrepreneurs.

At the national level in Croatia there are several strategic documents in the field of SME development, namely: Entrepreneurship Development Strategy in the Republic of Croatia 2013 - 2020, Innovation Strategy of the Republic of Croatia 2014 – 2020, as well as several strategic documents for encouraging the development of entrepreneurship for different social groups and fields of activity. The strategic framework for planning the improvement of the Zagreb 1entrepreneurial ecosystem is represented by these strategic planning documents of the local level, namely: The City of Zagreb Development Strategy for the Period up to 2020, as well as The City of Zagreb Human Resources Development Strategy 2017 - 2020 and The City of Zagreb Cultural and Creative Development Strategy 2015 - 2022.

Considering the situation and significance of the SME sector of the City of Zagreb, it should be noted that the largest number of entrepreneurs in Croatia are located in the City of Zagreb, where in 2018 there were 43.927 active entrepreneurs, representing a share of 33.5%, and together with Zagreb county, which is economically and demographically connected to the City of Zagreb, it amounts to more than 40%.

According to the basic economic indicators, the importance of Zagreb entrepreneurs and their business results is dominant when compared to other counties, as is the relationship of the state economic center to the rest of the national space. Thus, in 2018, the City of Zagreb's entrepreneurs generated almost half (49.9%) of all Croatian entrepreneurs' income. With regard to entrepreneurs by activity, trade stands out, which in Zagreb, as well as in Croatia, is the leader not only in terms of the number of entrepreneurs and the revenue generated, but also in terms of other financial indicators and the number of employees.

The Accounting Act and the Act on Encouraging Small Business Development of 2016 define the criteria for classifying entities in the SME sector, with the most recent 2017 legislative amendment defining the category of micro-entrepreneurs.

Graph 1: City of Zagreb share in entrepreneurship of the Republic of Croatia, 2018
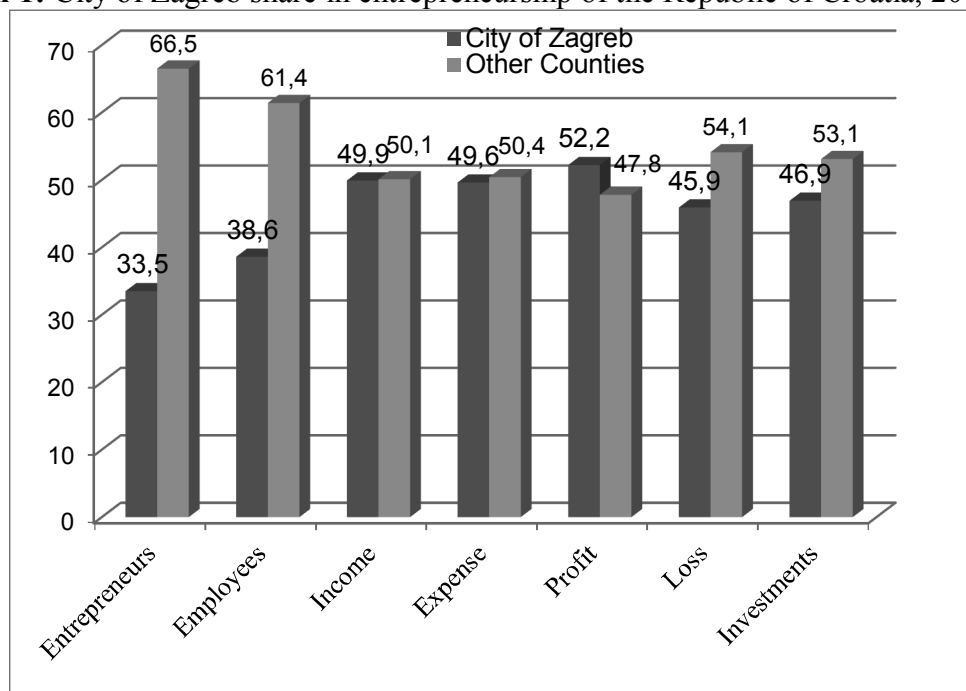
Source: Registry of annual financial statements, FINA, 2019

Table 1: Structure of entrepreneurs 2018, by size

	Total	Micro	Small	Medium	Large
City of Zagreb	100,0	89,7	8,6	1,3	0,4
Republic of Croatia	100,0	90,0	8,6	1,1	0,3
EU – 28	100,0	93,0	5,9	0,9	0,2

Source: FINA (2019), EUROSTAT (2019)

Looking at the size of the entrepreneurs classified by the criteria of assets, income and average number of workers, at the level of Croatia, the share of micro entrepreneurs in the total number of entrepreneurs in 2018 was 90%, small entrepreneurs were 8.6%, medium 1.1% and large ones 0.3%. In the City of Zagreb, there is approximately the same structure of entrepreneurs in size.

According to the latest available data, the share of SMEs in the Croatian economy is 99.7%. In the City of Zagreb, this share is 99.6% or 43.760, most of which (almost 90%) are micro-entrepreneurs employing up to 10 employees. In terms of total income, Zagreb SME sector generates slightly less than half of the total entrepreneurial income and 59.2% of all employees. In doing so, micro-entrepreneurs generate only 9.2% of total revenues, and their share of exports is also relatively low (6.8%). However, exports of the total SME sector were 49% or approximately the share of large enterprises. Labor productivity, as measured by total income per employee in the SME sector, is significantly lower than that of large enterprises. The density of SMEs per 1000 inhabitants in the City of Zagreb was 54 (Tab.2) and significantly higher than the national average (32), which is typical of large cities as more developed areas.

Table 2: Density of SMEs by 1.000 inhabitants, 2018

	SMEs	Population	SMEs/1.000
City of Zagreb	43.760	804.507	54
Republic of Croatia	130.757	4.087.843	32
EU 28	25.079.310	512.372.000	49

Source: FINA (2019), EUROSTAT (2019)

From the data above, it can be concluded that the potential of the SME sector, especially micro-entrepreneurs, in terms of entering the international market has been under-utilized so far, due to less competitiveness and probably less support.

The net financial result of this sector was positive and accounted for 47.9% of total profit of all entrepreneurs. It is interesting that the SME sector invests significantly more resources than large entrepreneurs in R&D, but significantly less than large ones in investments in new fixed assets so their total asset value is reduced in real terms. Porter from Harvard University says: „Competitive advantage is created and maintained through a highly localized process, and differences in national values, culture, economic structures, institutions and history contribute to competitive success. Nations choose prosperity if they create policies, laws, and institutions that support productivity growth." (Porter, 1990, 73, 74).

As for the indicator of regional competitiveness index according to the research of the National Competitiveness Council entitled Regional Competitiveness Index of Croatia 2013 by counties, we extracted the results of values of business environment indicators and business sector of the City of Zagreb and their rank in relation to other counties (Singer, Gable, et. al., 2014, 42-45). Even though, according to this research, the City of Zagreb had the highest final competitiveness rank as a county, it is important to recognize Zagreb's potentials, but also limitations of the local business environment and business sector in order to make recommendations for future development. It should be noted that, according to this research, the sum of statistical and survey indicators, or the final rank of Zagreb business environment quality is 2, and the business sector quality rank is 3, when compared to other counties (Ibidem, 42). According to the same research, Zagreb competitiveness rank in 2007 was 1, and in 2010, 2.

In addition to the positive statistical indicators in the area of demography, health and culture, primarily due to the positive balance of migration and doctors of medicine per capita compared to other counties, as well as relatively favorable indicators of education, the research warns that the indicators of business environment and business sector in Zagreb should be addressed, since they are not satisfactory for 2013, and it seems even for 2020.

To be more specific, according to the results of this research, the City of Zagreb ranks only 7th out of 21, by individual indicators, among counties in terms of statistical indicators for basic infrastructure and the public sector and business infrastructure. This is especially true of the indicator of the number of entrepreneurial zones per capita (rank 21), as well as the cost of water and drainage (rank 21), average surtax rate in county/city (21), then housing prices in the city center (rank 18) and prices for office space communal fee, I. zone (rank 17) (Ibidem, 44). In terms of evaluating business sector statistical indicators, results of Zagreb rank are more positive in the indicators - economic results and dynamics - economic results, investment indicators and entrepreneurial dynamics, as well as in the entrepreneurship development indicators.

The results of the Regional Competitiveness Index survey in the part of perceptual indicators show that City of Zagreb, as a rule, shows worse results there than in statistical indicators. Namely, Zagreb's survey rankings in 2013 compared to other counties were 5th, and consisted of a business environment rank of 6 and a business sector rank of 3, although with a positive difference from previous research (Ibidem, 42). Therefore, in the City of Zagreb, indicators of social factors and education and the level of economic results are significantly better than the Croatian average, while some of the important indicators of basic infrastructure and public

sector and business infrastructure lag behind the Croatian average. This conclusion is also confirmed by data from the Ministry of Economy, Entrepreneurship and Crafts regarding the development of entrepreneurial infrastructure. According to the Unified Register of Entrepreneurial Infrastructure of the Ministry in the area of urban agglomeration of Zagreb, all local units, except Zagreb and Stupnik, have planned or established one or more entrepreneurial zones. Status of this registry as of March 22, 2020 in urban agglomeration of Zagreb contains a total of 8 verified zones, 29 active and 51 more planned (Đokić, et. al., 2016, 56). Therefore, the City of Zagreb does not have, nor has its spatial plans envisaged, the construction of entrepreneurial zones.

Regardless of that, other constituents of entrepreneurial support institutions operate in the City of Zagreb to a greater extent when compared to other counties. Namely, from the above mentioned Register of Entrepreneurial Infrastructure from the web pages of the Ministry, the data of the total verified Entrepreneurial Infrastructure in the City of Zagreb are given below (status as of 03/22/2020), noting that this data is possibly incomplete since the verification process of these institutions with the Ministry is still ongoing. According to them, there are three development agencies in the City of Zagreb (Regional Development Agency Ltd., Zagreb Development Agency and REGEA), one free zone, 7 entrepreneurial incubators, 3 incubators for new technologies, 3 entrepreneurial accelerators, 6 entrepreneurial centers and 2 competence centers. The latter, according to the verified data of the Unified Register, represents CEPOR - SMEs and Entrepreneurship Policy Center and ICENT, Faculty of Electrical Engineering and Computing of Zagreb University. There are no technology parks and entrepreneurial zones, according to the Enterprise Infrastructure Act.

In the past, other counties, cities and municipalities have invested considerable funds in the construction of entrepreneurial zones. When asked why the City of Zagreb has not invested in building entrepreneurial zones so far, the answer from the city administration is that "the city does not have enough land in its ownership for such construction, and its purchase on the market would be too demanding for the city budget." It is a positive novelty that the Zagreb Innovation Center, ZICER, was established in Zagreb in 2018, as an entrepreneurial support institution, which belongs to the category of entrepreneurial accelerators and represents a valuable part of the entrepreneurial infrastructure.

In the research of the state of the entrepreneurial environment in the City of Zagreb, a survey was conducted on entrepreneurs' opinions of city-level entrepreneurship support, yielding very interesting results. The survey was conducted by GfK in 2015 on a structured sample of 406 companies operating in the area Zagreb, and the results are measured by size, business activity and the year of establishment (City Office for Strategic Planning and Development of the City, 2015). Particularly interesting in this survey are the proposals of the entrepreneurs - managers on an open-ended question of what measures they would suggest to improve the conditions for conducting business. The following recommendations were obtained:

- simplifying the administration for entrepreneurship (public procurement, licensing, documentation)
- reducing taxes, surtax, levies, local fees, utilities and similar charges
- streamlining city government (increase efficiency, hire competent staff)
- establishing better cooperation between city government, institutions and entrepreneurs
- providing more funding in the budget for entrepreneurs
- reducing corruption, increasing transparency
- reducing the cost of renting an urban space
- improving business infrastructure

- building entrepreneurial zones, technology parks
- improving urban transport
- establishing specialized professional services to assist entrepreneurs.

4. Support measures for small and medium entrepreneurs 2004 - 2020 and Zagreb's entrepreneurial ecosystem

The stimulation of the development of small and medium entrepreneurs in the City of Zagreb has been implemented through subsidies from the city budget since 2004 and, according to a special incentive program, since 2013. The program was renewed in 2019, i.e. a new one was adopted for the period 2019 to 2023. The priority objectives of the Program for stimulating the development of crafts, small and medium-sized enterprises in the City of Zagreb 2019 - 2023 are implemented through a number of measures and activities, under the priority objective - The development of a stimulating entrepreneurial environment. The following measures are being implemented and further planned:
- provision of incentive loans for the realization of entrepreneurial projects (subsidizing interest on entrepreneurial loans)
- preservation and development of traditional, scarce and productive craft activities
- support for the establishment of new clusters and the strengthening of existing ones
- support for the development of youth entrepreneurship and start-up entrepreneurs
- support for women entrepreneurship
- grants for social entrepreneurship
- grants to strengthen entrepreneurial competences
- support to entrepreneurs for the use of EU funds
- support for entrepreneurial infrastructure
- other grants to promote entrepreneurship and crafts

Planned objective - the development of crafts, small and medium enterprises, based on knowledge and innovation, is planned to be implemented through the following measures in the forthcoming period:
- support for innovators for entrepreneurial use
- support for the introduction of new technologies and technological infrastructure
- support for entrepreneurship in the cultural / creative industries
- support for entrepreneurship in tourism
- support for internationalization of business

In Zagreb, financial support for the development of craftsmen (Pic. 2), subsidies for interest on loans to entrepreneurs, grants for innovators are traditionally implemented through the Development Agency and various grants for entrepreneurs through the Zagreb Innovation Center and the Zagreb Blue Office.

Picture 2: Grants to craftsmen of the City of Zagreb by groups of activities, 2013 to 2018, *HRK*
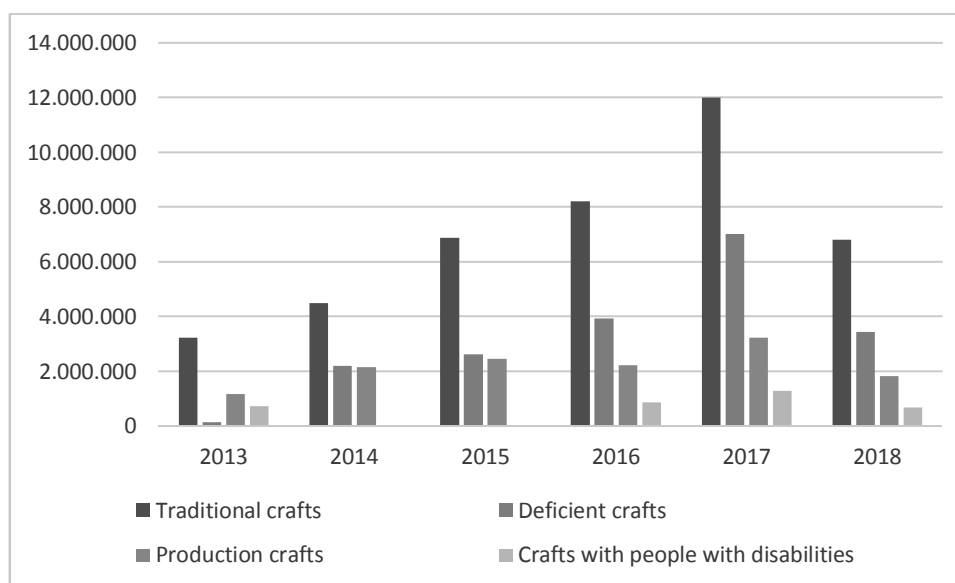
Source: City Office of Economy, Energy and Environmental Protection

The city's support for the development and improvement of technological infrastructure is also emphasized, with the aim of creating preconditions for the establishment and further development of high-tech and knowledge-based entrepreneurial projects. This is done through the functioning of the Zagreb Innovation Center (acronym - ZICER) and the Zagreb Development Agency. ZICER provides support to innovative individuals and technology companies or teams through all stages of their development, in the following programs: pre-incubation, incubation, post-incubation, pre-acceleration and acceleration. It also nurtures collaboration with interested external members, alumni and co-working.

There are many successful business stories of companies originating from Zagreb Technology Park. ZICER has been operating under this name since 2018 (renamed former Technology Park Zagreb) and operates at four locations in Zagreb, covering an area of approximately 9000 m2.

Table 3: Business indicators of entities incubated in Technology Park Zagreb* 2013 - 2018

Year	2013.	2014.	2015.	2016.	2017.	2018.
Number of entities	19	18	21	25	70	106
Number of employees	71	83	87	116	163	278
Income (in millions HRK)	17,7	20,8	31	32	38,3	59,1

* From 2018, renamed to a new institution called - Zagreb Innovation Center.
Source: City Office of Economy, Energy and Environmental Protection

In conclusion, it should be noted here that total subsidies to entrepreneurship from the Zagreb city budget for the period 2015 - 2019 amounted to an average of 50 million HRK annually, which represented about 0.6 % of total budget. With regard to the needs and opportunities of the City of Zagreb, it is considered that, due to the need to improve entrepreneurial infrastructure, increase employment and improve the overall entrepreneurial ecosystem, especially due to the recent increased expatriation of young people abroad, this appropriation should be much higher. If these funds were doubled, it would still account for only 1.2 % of the city budget.

Based on Zagreb's tradition of industrial and craft development, location, transport and other public and business infrastructure, as well as educational capacities and available human resources, the idea of creating entrepreneurial infrastructure institutions in the City of Zagreb was born in the mid-1990s. At that time, at the initiative of a group of engineers of the factory „Rade Končar" and under their leadership, "Development Agency - Technology Park Zagreb", the first development agency in Croatia, was founded. Today's Zagreb Development Agency, the Blue Office Zagreb and the Zagreb Innovation Center have grown on its foundations, with significantly improved spatial and other working conditions. Today, these and other aforementioned entrepreneurial support institutions in the city are central to support the development of innovative entrepreneurship and entrepreneurship in the broadest sense, and with the cooperation of city government, city utility companies, Zagreb Chamber, Chamber of Crafts, banks, competent ministry, banks, CBRD, state support institutions, education and other public and private stakeholders, make a unique model for the Zagreb entrepreneurial ecosystem.

Key components of the Zagreb entrepreneurial ecosystem are: local entrepreneurship policy (strategic, planning and programming framework), financing, entrepreneurial infrastructure, research, development and innovation, and cooperation with the scientific sector, education and training for entrepreneurship, human resources and entrepreneurial culture. All these components of the unique system of the local entrepreneurial environment represent a set of conditions of the entrepreneurial ecosystem in which all companies, both old and newly established, operate in Zagreb. These components are in continuous development, and there is a need for a more active alignment of the role and program of their work with the needs and interests of entrepreneurs, job creation and encouragement of overall development.

Based on previously presented data, research and analysis, and considering the development problems and development needs in entrepreneurship and entrepreneurial infrastructure of the City of Zagreb in the past period, a SWOT analysis is given here with highlighting the strengths, weaknesses, opportunities and threats of the Zagreb enterprise ecosystem.

Table 4: Analysis of strengths, weaknesses, opportunities and threats of City of Zagreb entrepreneurship, 2020

STRENGHTS	*WEAKNESSES*
- favorable geographical position and quality transport and other public infrastructure - tradition and experience in crafts and entrepreneurship and industry - relatively quick adaptation of craftsmen, SMEs to market demands - an increase in the number of businesses, especially micro and small ones - concentration of educational, research and support institutions - relatively higher innovation potential in the city - ICT sector developed - intensive development of tourism activities - concentration of cultural / creative industries - the possibility of using different support programs	- lag in technological and innovation development - the departure of young, highly educated people abroad and therefore a negative balance of external migration - insufficient support for the development of entrepreneurship by science, in the provision of professional and professional services - insufficient support for the development of entrepreneurial infrastructure, especially in entrepreneurial zones - -education is not organized to encourage entrepreneurs to implement entrepreneurial ideas - lack of a comprehensive youth employment policy and support for apprenticeships- underdeveloped entrepreneurial culture - under-utilization of EU funds and programs - insufficient cooperation between city government, institutions and entrepreneurs

OPPORTUNITIES	THREATS
- centration of craftsmen and other entrepreneurs, public and business infrastructure - building entrepreneurial zones in suburban areas - cooperation between the public, private and scientific sectors - improving entrepreneurial knowledge and skills for business development and management - increasing subsidies from the city budget for entrepreneurship - improving the preparation of development projects in order to more effectively withdraw funds from EU and national funds	- lagging behind in the application of new technologies - insufficient production and export of higher value-added products and services - investment uncertainty due to frequent changes in legislation - increased age of craftsmen and insufficient interest of young people in the crafts professions - insufficient infrastructure connectivity to support innovation development

Source: authors

5. Conclusion and recommendations

From the conducted brief analysis of the situation of small and medium-sized enterprises, programs of measures to support entrepreneurship development in the Zagreb area, and an overview of the state and limitations of the entrepreneurial ecosystem in Croatia and the City of Zagreb, it can be concluded that there are more restrictive than stimulating components of the entrepreneurial ecosystem. The biggest constraints on the entrepreneurial ecosystem in Croatia over the past few years have been government policies under the regulatory framework for entrepreneurship, especially relatively high taxes, surtaxes and other levies, the presence of barriers to market entry, low levels of R&D in the business sector, as well as insufficient cooperation between the private sector and science, the cultural and social norm towards entrepreneurship, inefficient administration and over-administration, and inadequate youth education for entrepreneurship.

In the City of Zagreb, entrepreneurship development factors, basic infrastructure and the public sector and education are more favorable than in the rest of Croatia, but the development of business infrastructure is lower and the costs of local utility fees are higher. In addition, entrepreneurs' perceptual indicators of local government and cooperation with entrepreneurs and entrepreneurial infrastructure are considerably lower than the national average. Due to the developmentally incompatible and incomplete entrepreneurial ecosystem in Croatia and all its cities and regions, activities need to be undertaken in the coming period to eliminate these limiting components in the entrepreneurial ecosystem. Therefore, it is of the utmost importance to continue to carry out GEM research and other scientific research on entrepreneurship and the entrepreneurial ecosystem, based on objective field data and the aspirations of entrepreneurs, together with the resulting recommendations about the responsibilities for changes on personal and all institutional levels for the entrepreneurial action of all stakeholders.

Regarding the theoretical aspect of the approach to entrepreneurship development, in Croatia it is mostly a "traditional" rather than a "market-oriented" approach to enterprise development, since both state and local measures are mainly aimed at trying to increase the total number of businesses through direct assistance in starting or maintaining a business, acquiring "easy money", financing risky projects, investing in R&D and technology transfer. Such access to direct state and local intervention cannot guarantee significant long-term success. The focus of further development should be on a market-oriented approach, which will require the adaptation of the entrepreneurial ecosystem in all its components, not only micro, small and start-ups, but also other, existing companies with high growth potential. Helping such businesses should be more about eliminating these obstacles than giving direct financial support. For a sustainable, i.e. productive and thus competitive entrepreneurship, the state and

its cities and regions, in Croatia it is necessary to develop a broadly focused policy towards entrepreneurship, which must be holistic and balanced at a national, regional and local level. Local communities, especially cities, with stakeholders of entrepreneurship development in their area, have their own natural and social opportunities to influence this development.

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REINFORCEMENT AND CRITICAL SUCCESS FACTORS OF ERP IMPLEMENTATION: DOES THE SCOPE OF THE PROJECT PLAY A ROLE?

ABSTRACT

Many studies have addressed critical success factors in ERP implementation. However, none of them have addressed the reinforcement phase in which new behavioural routines are refrozen. In addition, there are few studies that have focused on ERP implementation and critical success factors in developing countries. In this research, the same methodology was used to examine reinforcement and critical success factors in developed countries and in Brazil as a developing country. It was found that significant attention was not put on the examined reinforcing factors except for training and employee information exchange. Training was found to be a key factor in successful ERP implementation and it was related to the scope of the project as well as to financial constraints. Top management support was confirmed as the important success factor and it was found to be greater when the scope of the project was larger to avoid the risk of project failure. The lack of managerial engagement, especially regarding planning and change management, was found to be the most important problem area, along with the quality of project leadership. These factors could therefore also be considered critical success factors. In addition, even though communication was found to be of huge importance, it was not without problems, which was found to be related to the project scope and poor level of expertise on the part of management. That is why consultant engagement and support was found to be the most important success factor in ERP implementation. Future studies could take a more nuanced approach and include more exploratory variables, especially by implementing the case study methodology[1].

Key words: *Enterprise Resource Planning, reinforcement, learning, critical success factors, large companies, developed countries, developing countries, Brazil.*

1. Introduction

Enterprise Resource Planning (ERP) is a transaction-based enterprise integration tool and a business management system. It is a complex system that includes many applications that improve decision making regarding material requirement and production planning, maintenance, distribution, logistics and sales management, asset management, quality management, human resource management (e.g. personnel management, skill and competence management), customer relationship management, data control in terms of centralization of administrative activities especially from dispersed geographical sites (e.g. billing, cost management and financial accounting analysis), allocation of resources as well as tasks and responsibilities across different positions and locations (Boykin, 2001; Siriginidi,

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2000, Hitt *et al.*, 2002; Gattiker and Goodhue, 2000). Almost any management process that could be data-based is covered by ERP applications and modules. In short, ERP integrates data-based business processes and functions in a system that facilitates management decision-making. It serves as a link to external stakeholders and contributes to the integration of divergent stakeholder perspectives.

ERP systems have first been implemented in large scale and capital-intensive industries such as manufacturing, construction, aerospace and defense (Shehab *et al.*, 2004) in order to gain better control of their cost structures, improve productivity and process flow. However, ERP has also been successfully implemented in sectors such as hotel management, telecommunications, insurance, retail, finance, health care and even education (Shehab *et al.*, 2004). ERP vendors have responded with an increase in differentiation by addressing the specifics of a certain industry (Mabert *et al.*, 2001). Service sector has been especially challenging due to the necessity to manage intangible costs, to which leading ERP vendors have also successfully responded (Yen *et al.*, 2002). ERP platforms have become not only the company's IT core, but also their operation and process backbone. Many companies have recently been involved in ERP upgrade projects to adapt to the rapidly changing business environment, technological advancements and increasing competitive pressures (Barth and Koch, 2019).

Many studies have previously focused on critical factors that contribute to successful implementation of ERP systems, especially in developed countries (e.g. Ang *et al.*, 1995, Sumner, 1999, Umble, 2003). However, previous studies have rarely considered the reinforcing phase, which is key in refreezing new ways of thinking and working. In addition, not much evidence is available regarding critical success factors in developing countries. Furthermore, there have not been studies that have used the same approach and methodology to compare reinforcement and critical success factors in developed and developing countries. This study serves to fill this gap.

2. Literature review: problems and critical success factors when implementing ERP

ERP implementation has also caused a significant array of problems. In some studies, it was reported that the number of cases in which ERP implementation could be considered a failure ranges from 40% to 70%, sometimes even higher (Langenwalter, 2000; Sivunen, 2005; Chang *et al.*, 2008; Kwahk and Ahn, 2010). Implementation of ERP systems has also led a significant number of companies to bankruptcy (Markus *et al.*, 2000; Chang *et al.*, 2008). The reasons often lie in problems that emerge in later phases of the implementation process that were earlier undetected as well as in the initial decline in productivity (Umble *et al.*, 2003). Implementation costs are also a significant factor. Ehie and Madsen (2005) claim that business process integration costs should be multiplied by a factor of 3-10 of the ERP software. The costs include high consultancy fees as well as replacement of IT infrastructure to support ERP. That is why some authors question justification of implementing ERP systems due to results that are often below expectations. In their survey, Wood and Caldas (2000) have found that for 45 per cent of companies ERP systems yielded no improvements, while in 43 per cent no cycle reduction has been identified. On the other hand, Hitt *et al.* (2002) have found that ERP adopters were consistently higher in performance across a variety of measures compared to non-adopters. However, they did note a drop in performance and productivity shortly after the implementation process was complete. Park and Park (2015) also found a decrease in efficiency and profitability during the first and second year after ERP implementation. The reasons could be attributed to the troubles in using the new system, which can result in shipment delays, incomplete orders and slow response time to customer complaints.

For large companies, ERP systems implementation is a massive project which should be managed by following the principles of project and change management. Effective change management supported by effective project management has also been identified as important by Nah *et al.* (2011) and Motwani *et al.* (2002). Absence of change management was found to contribute to ERP failures (Dunn *et al.*, 2005; Momoh *et al.*, 2010). Besides identifying key success factors for ERP implementation project, it is important to focus on the so-called "refreeze" phase of the project change management of implementing ERP according to the model introduced by Lewin (1952). In the project of ERP implementation, this phase could be referred to as the reinforcing phase. The reinforcing phase serves to refreeze the new way of working or, in other words, to refreeze new behavioral routines. It consists of repeated testing of the system by organizational users followed by the usage analysis and correction of detected errors in employee work. In this phase, it is important that employees communicate and share information about the usage of the system. Knowledge sharing is beneficial to increase individual knowledge base about the system's functioning and the level of confidence in using the system. Employee level of skills could be directly related to the effectiveness of the new system's usage. New behavioral routines could also be reinforced by introducing benefits, either material or non-material, such as praise and recognition, especially for key learners. Pratheepkanth (2011) found that employees who received recognition for their work exhibited a higher level of self-esteem, were more prone to accepting challenging assignments and more frequently resorted to creative and innovative behavior.

Marsh (2000) pointed to the importance of deep understanding of the key issues related to ERP implementation. Management support has been identified as an important factor when implementing ERP systems (Ang *et al.*, 1995; Bancroft *et al.*, 1998; Bingi *et al.* 1999; Nah *et al.*, 2011). Management support has been identified relative to two roles: project sponsor and project champion (Shehab, 2004). The role of the project sponsor is concerned with the budgetary support, which refers to providing adequate resources in every phase of the implementation process. The project champion role refers to the project leader in the change management process of implementing the ERP project. While top management can serve collectively as project sponsors, it is best that the project has one leader or project champion. Project champion or project leader is responsible for overseeing the course of the project (Sumner, 1999), ensuring consensus and commitment to change. Project champion is the person responsible for the project outcome. Project champion should be well aware of the technological aspects of implementing ERP as well as of organizational and business conditions. Falkowski *et al.* (1998) identified good project champion as one of the critical success factors for ERP implementation. Management support should also be reflected in the role of leadership. Strong and committed leadership has also been identified as important by Sarker and Lee (2000). Management support is considered important in all phases of the ERP implementation process. It interesting to note, however, that by examining a German manufacturer, Reitsma and Hilletofth (2018) found that the users of the system regarded organizational change management and top management involvement as unimportant critical success factors when implementing the ERP system.

Considering the scope of this study, one more factor was identified as potential key success factor: communication. Effective ERP implementation requires good communication with internal and external stakeholders. Internal communication has the purpose of knowledge sharing and increasing the individual and organizational learning and knowledge base. User input is especially important regarding their feedback, comments, suggestions and requirements (Rosario, 2000). Among other factors, user involvement in evaluation, modification and implementation was identified as critical by Beheshti *et al.* (2014) when examining ERP implementation in large manufacturing companies in the United States. Unless adequately addressed through communication, any new system introduction could

cause user/stakeholder resistance (Brown *et al.,* 2002). Good communication with stakeholders has also been identified as a critical success factor by Bancroft *et al.* (1998). Open communication has also been identified as important by Sarker and Lee (2000). Internal communication is considered important in all phases of the implementation process, while external communication is key in the preparation phase.

The informants in this study were asked to indicate in which stage of the implementation process the particular success factor was important and to what extent. In that way, the importance of the same CFSs were considered in all three phases: preparation phase in which goals and desired outcomes are determined, the phase of building the system and in the last phase when the system is tested and put into service. Ram *et al.* (2013) found that while some CFSs were not critical for successful ERP implementation, their importance increased in attempts to achieve performance improvements from the implemented system. However, they acknowledged that some CFSs can have a dual role, which was the underlying assumption of this research.

It should be noted that, in this paper, in the reinforcing phase the emphasis was put on the role of individuals – employees and managers and their behavior. Technical aspects (problems) were not considered. In that way, the approach is this paper is different from the approach by Ross and Vitale (2000). They suggested "stabilization" as one of the ERP implementation phases understanding it as a period in which data, parameters or business rules, and processes are cleaned up to adjust to the new environment. However, Guang-hui *et al.* (2006) have later adopted the model by Ross and Vitale (2000) and identified education and training; top manager support, and communication as key contributors to the successful "stabilization" of ERP implementation. A very similar approach was also adopted by Kronbichler *et al.* (2009) who described the "stabilization/improvement" phase as the process of bug fixing, system performance tuning, additional user skill building and post implementation benefit assessment.

3. Research methodology

Data was collected from two consultants who have successfully worked on implementing ERP systems for more than ten years. Contacts were obtained from the LinkedIn database. Theoretical framework was designed based on the literature review and incorporated in the research analysis as the starting point allowing further examination and refinement of research questions. The purpose of the survey questionnaire was to identify the key issues of concern when implementing ERP systems in terms of critical success and reinforcement factors. An informational letter stating the purpose of the research and ensuring confidentiality was sent to the informants in advance to solicit participation. The respondents were chosen carefully. The suggestion by Huber and Powere (1985) was followed who noted that the person most knowledgeable about the issue of interest should be identified. Respondents were asked to answer closed (yes/no) question, selects items which were relevant according to their experience and indicate the extent of agreement with the questionnaire items (statements) on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) or in percentages of cases. Inductive approach was used to get a full picture of the ERP critical success and reinforcement factors making this study explorative in nature. As frequent in exploratory studies, the goal was "to learn what is going on here?" [Schutt, (2006), p.14]. This study is therefore based on the interpretative method of research. Wynekoop and Russo (1997) defined interpretative research as "An attempt to understand a phenomenon by studying it in its natural context from participants' perspective." The unit of analysis were projects of implementing ERP by consultants.

4. Results

The results refer to estimates provided by the two consultants with international experience in implementing ERP in large companies for more than 10 years. The first consultant worked on implementing ERP systems in the developed countries such as U.S., South Korea and Germany, mostly in the service sector, while the second gained experience in Brazil and worked on implementing ERP systems in large, mostly manufacturing companies. Both respondents, therefore, worked in systems of comparative size. This approach is considered comparable to the approach from other authors who presented their results based on the findings from a group of companies, mostly from one area. For example, in their paper, Ross and Vitale (2000) presented experiences of fifteen manufacturing companies. It is assumed that the respondents in this study have gained comparable experience by consulting for such a long time and are able to provide quality information that could shed some light on the issues examined in this study. Qualitative interviews with consultants, among other stakeholders, were used as a method of data acquisition also by Barth and Koch (2019).

Before presenting the results regarding reinforcement and critical success factors of ERP implementation, it is important to note the scope of ERP implementation projects that the consultants worked on. In developed countries, companies implemented the following modules: Finance, Customer Management, Asset Management, Funds Flow, Cost Module and Product Cost Accounting, Sales Module, Production Module, Materials Management Module, Quality Module, Plant Maintenance Module, Service Management Module and Human Resource Module. On the other hand, implementation of ERP in large companies in Brazil focused on implementing the modules related to the production process: Production Planning Module, Materials Management Module, Quality Module and Plant Maintenance Module. Results regarding the reinforcing phase are presented in Table 1.

Table 1: Estimates regarding the reinforcing phase

	Developed countries	**Brazil**
Employees exchanged information about the system	To a large extent (90%) Only to some extent (10%)	To a large extent (100%)
Management encouraged information exchange	To a large extent (60%) Only to some extent (40%)	To a large extent (60%) Only to some extent (30%) No, rarely (10%)
Employee level of skills after the system was put in service	Excellent (70%) Good (20%) Poor (10%)	Excellent (20%) Good (70%) Poor (10%)
Benefits provided to employees	No, rarely (100%)	Yes, benefit plan was designed (10%) Yes, but benefits were not abundant (20%) No, rarely (70%)

Source: author

The reinforcing phase was given attention in both groups of countries, however not in all aspects. Special emphasis was placed on information exchange among employees, which fostered the process of learning and enabled faster and more effective adoption of the system. However, that process was not supported by management. In both groups of countries, management encouraged information exchange among employees to a large extent in only 60% of cases. In Brazil, management rarely encouraged information exchange in 10% of cases. The results regarding managerial support in information exchange could be reflected in the employee level of skills after the system was put in service. While in the developed countries employee level of skills was excellent in 70% of cases, the same level in Brazil was evident in only 20% of cases. The level of skills in Brazil was predominantly good (in 70% of cases). This difference could be explained by the extent of training. The average training time

in both groups of countries differed significantly. In the developed countries training lasted for three months on average but the time was often extended due to the number of modules introduced. In Brazil, training averaged to one week per module. In the developed countries the number of the introduced training programs were 50 to 60, while in Brazil 10 programs were implemented on average. Considering the level of employee skills, managerial support and involvement in the information exchange could have resulted in a higher level of employee skills considering the lower amount of training offered to employees. However, managerial support and encouragement of information exchange may reveal their own lack of knowledge about the system, so it is not surprising that management often decides to stay away and let employees deal with problems regarding the system usage among themselves.

One of the strongest factors that could contribute to the effective system reinforcement are benefits provided to key players. When ERP systems were implemented, benefits were rarely provided to employees in both groups of countries. In the developed countries benefits were provided rarely in 100% of cases, while in Brazil in 30% of cases employees were given some benefits. However, only in 10% of cases a specific benefit plan was designed. In 20% of cases benefits were not abundant. More precisely, benefits referred to new positions offered to employees to serve as key users responsible for a specific process. Estimates regarding critical success factors when implementing ERP systems are shown in Table 2.

Table 2: Estimates regarding critical success factors

	Developed countries	Brazil
Top management support generally	Excellent (80%) Good (10%) Poor (10%)	Excellent (30%) Good (60%) Poor (10%)
Top management ensured an adequate amount of resources	To a large extent (80%) To some extent (10%) Rarely (10%)	To a large extent (50%) To some extent (30%) Rarely (20%)
Project had:	One leader and one deputy (70%) Several leaders (10%) A team of leaders (20%)	One leader and one deputy (20%) Several leaders (30%) A team of leaders (50%)
Quality of project leader's work	Excellent (50%) Good (50%)	Excellent (20%) Good (60%) Poor (20%)
Top management support in the preparation phase	3	4
Top management support in the phase of building the system	4	3
Top management support when the system was put to service	5	2
Project was uncertain	Yes, to a large extent (5%) Yes, but only to some extent (10%) No, rarely (85%)	Yes, to a large extent (10%) Yes, but only to some extent (10%) No, rarely (80%)
Importance of communication in the preparation phase	5	5
Importance of communication in the phase of building the system	5	4
Importance of communication when the system was put into service	5	2
The quality of	3	3

	Developed countries	Brazil
communication generally		
Importance of communication toward internal stakeholders	5	4
Quality of communication toward external stakeholders	3	3
Most important external stakeholders	Key customers	Key customers
Intensity of communication with external stakeholders	Very high (100%)	Very high (20%) Moderate (50%) Low (30%)

Source: author

We proceed next with the analysis of the two critical success factors when implementing ERP that could be considered crucial and not resource intensive: top management support and communication. In the developed countries, top management support was significantly better than in Brazil: it was excellent in 80% of cases and poor in only 10%. In comparison, in Brazil the consultant rated top management support as excellent in only 30% of cases and good in 60%. This finding for Brazil could be related to the finding regarding managerial support of information exchange. It seems that management in Brazil mostly stayed away from the ERP implementation process and relied on the consultant support due to the lack of knowledge regarding the system. The supply of adequate amount of resources was a mirror picture in the developed countries to the top management support. That could indicate that the level of managerial involvement was directly related to the level of ensured resources, which is often the case in practice. Similarly, the amount of resources ensured for the project was evident in the amount of the training programs offered to employees, which is a key success factor for effective ERP implementation. Commensurate with the number and extent of the training programs, adequate amount of resources was ensured to a large extent in only 50% of cases in Brazil. However, in both groups of countries there were cases in which top management did not ensure an adequate amount of resources: in 10% in the developed counties and in 20% in Brazil, which is a sign for concern. It seems that more companies in Brazil were operating under budget constraints, which was also reflected in the number of training programs.

Project leadership is also one of the key success factors in ERP implementation. Even though ERP implementation programs in the developed countries were generally larger in scope as more modules were introduced, the projects had one leader and one deputy in the majority of cases (70%), while in Brazil there were more project leaders – a team of leaders in 50% of cases and several leaders in 30% of cases. In the developed countries, ERP implementation projects had a team of leaders in only 20% of cases. It seems that in the developed countries ERP implementation was under tighter control of one authority. In those countries the quality of the project leader's work was rated as excellent in 50% of cases and good in the rest of cases, showing that that system was appropriate. The system chosen in Brazil was less so: it was excellent in only 20% of cases but also poor in 20% of cases. This finding indicates that the system of one leader and one deputy could be a better solution.

Top management support was especially investigated in the three phases of implementing the ERP systems: preparation phase in which goals and desired outcomes are determined and the climate for change is created, the phase of building the system in which platform requirements are determined (hardware, software and network requirements) often followed by the process redesign, and in the last phase when the system is tested and put into service. Interesting findings were found in this regard. While in the developed countries top

management support was the lowest in the preparation phase, it continued to increase and was excellent when the system was put into practice. The reasons could be found in the fact that those companies significantly relied on consultants and vendors in the preparation phase and in the process of building the system. The last phase – putting the system into practice is crucial for effective usage of the system if the company is large and many modules have been implemented. Top management support in the large companies supervised by Consultant 1 was important mostly regarding the need to coordinate the efforts and ensure flawless and smooth operations and avoid losses. It is inconclusive why the top management support declined in Brazil as the project was reaching its end. However, this fact could be attributed to the fact that in the majority of cases ERP project implementation teams had several or more leaders so they bore the responsibility of successful project implementation. Top management probably only assigned a certain amount of resources to the project and left its implementation to project leaders. It could be noted that this finding is consistent with the finding that in that country top management support was generally excellent in only 30% of cases, indicating at the same time a lower level of involvement.

Valuable input was obtained from the respondents regarding the importance of top management. Consultant 1 insisted that the preparation phase was the most important and concluded that managers should have put more effort into that phase. Then, the system could have been put into service a lot more easily. Hence, that consultant stressed that the most important leadership error was the lack of understanding of the importance of the change management process. In addition, many managers showed poor understanding of the implementation process, which was exacerbated by the fact that their communication skills were lacking, despite the fact that they felt otherwise. Consultant 2 also stressed the importance of top management support in all phases of the implementation process in Brazil. That consultant shared the opinion that the most important leadership error was the inability to value risks followed by the fact that they missed opportunities to act in advance to solve potential problems. Those facts contributed to their poorer ratings. It is interesting to note that Consultant 1 insisted on the importance of good planning and sincere commitment of all stakeholders involved in the implementation process and concluded that *"Nothing good comes through other but hard work!"* Regardless of the lower level of engagement of top management, the projects were rarely uncertain (in 85% of cases in the developed countries and 80% in Brazil). This could be attributed to good vendor and consultant support throughout the ERP implementation project. It is interesting to note that, on the basis of literature review, Moohebat *et al.* (2010) identified that companies in the developing countries depended on vendors more compared to companies in the developed countries, attributing it to cultural differences. Such difference was not confirmed in this study. Companies in all countries relied significantly on vendor and consultant support.

Communication, as the next key success factor is analyzed next. Both consultants stated that communication was extremely important in the preparation phase. Good preparation is the key to any project's success and many errors could be avoided by a more effective communication. That is especially the case when companies are large and many modules are implemented. While Consultant 1 expressed the opinion that communication was equally and greatly important in other phases of the ERP implementation, for Consultant 2 the importance of communication diminished as the project moved toward completion reflected in putting the system into service, which could be explained by the number of modules introduced. The importance of communication in the preparation phase is especially important for creating the climate for change, reducing resistance, ensuring cooperation of all parties and establishing realistic goals. However, the consultants were not particularly satisfied with the quality of communication, which was mediocre in their opinion. Importance of communication toward internal stakeholders (employees) was highly rated by both respondents. However, the quality of communication toward external stakeholder was mediocre while implementing ERP

systems. It is interesting to note that both respondents identified key customers as the most important external stakeholders. That finding does not come as a surprise because large companies depend heavily on their key customers and it is important that they are notified of any changes made in business operations. Even though the quality of communication toward key customers could have been better in both groups of countries, its intensity was very high in 100% of cases in the developed countries. In Brazil, the intensity of communication mostly reflected its quality: it was moderate in 50% of cases and very high in only 20%.

5. Conclusion

It can be concluded that companies in both groups of countries did not put significant attention to the examined reinforcing factors. Availability of resources played a key role in reinforcing ERP through training. Training was significantly more pronounced in the developed countries and commensurate with the number of implemented modules. Employees exchanged information about the system to a large extent but that process was not significantly supported by management. Benefits were also not used. It could be concluded that training is the key factor in successful ERP implementation and it is related to the scope of the project as well as to financial constraints. Ram *et al.* (2013) also identified training and education as CFSs for ERP implementation success.

Financial constrains regarding training could be compensated by significant information and knowledge sharing among employees. All companies according to this survey significantly benefited from information exchange among employees. Sarker and Lee (2000) also identified open communication as important in terms of sharing comments and feedback (Rosario, 2000). However, management support is the key factor in that process. The scope of the project seems to have played a role in this regard. In the developed countries, in which the number of introduced modules was higher, top management support was generally mostly excellent and an adequate amount of resources had been ensured in the majority of cases, which was not the case in Brazil. Significant top management support was related to the risk of failure of implementing many ERP modules in large organizations. Project leadership structure was also different. In the developed countries, in which a larger number of modules was implemented, the decision-making was generally more centralized and under the authority of one leader, which contributed to the excellent quality of leadership in 50% of cases and good in the rest, which was significantly better than in Brazil in which decision-making was less centralized.

Top management support, along with the good business process and change management, has also been identified as critical success factors when implementing ERP systems by Žabjek *et al.* (2008). Ziemba and Obłąk (2013) found this factor to be of critical importance when implementing ERP systems in public administration in Poland. Even though the importance of management support was confirmed in this study as one of the key success factors, many shortcomings in this area, especially regarding the lack of involvement and planning, should serve as a guidance for future practitioners. Generally, companies that had better management support experienced less uncertainty in the implementation process, which also confirms the importance of planning as a managerial responsibility. However, project leadership was not without problems. The most important leadership error referred to the lack of understanding of the importance of the change management process followed by lacking communication skills, which were exacerbated with the increase in the number of the implemented modules (as reported for the developed countries). In Brazil, management also showed a decline in their support followed by the lack of expertize in the field. Li (2011) also identified low-engaging management as a problem in implementing ERP in a Chinese small enterprise.

Communication was also confirmed as a key success factor when implementing ERP. However, while communication with internal stakeholders was somewhat better but not without problems, communication toward external stakeholders was more problematic. Considering the fact that the most important external stakeholders for large companies were customers and that communication with them was very intensive, it could be concluded that this is the aspect that the practitioners should be especially concerned about in their ERP implementation projects. In this study, the role of consultants was determined as a key success factor and its importance rose with the increase in the scope of the ERP implementation project. It seems that success of ERP implementation projects could be largely attributed to them and less to other factors studied in this research. Future studies in this regard are therefore recommended in which more explanatory variables would be included, especially regarding potential success factors. Case study methodology, especially the inclusion of more respondents from a single enterprise, could help to further elucidate this complex process.

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APPRAISAL OF DETECTION APTITUDES OF EARNINGS MANAGEMENT MODELS IN ENTERPRISES IN THE CZECH REPUBLIC

ABSTRACT

Accounting, as an ordered collection of information and data in financial statements, enables both internal and external users of financial information to determine the performance of a particular enterprise. One of the basic questions in determining the performance of an enterprise is its ability to transform inputs into outputs while making a profit. In practice, however, there may be opportunities to influence the accounting information through the use of different methods and techniques, and as a result, the financial statements lose their function and misrepresent the accounting data and manipulate the earning. Earnings manipulation is dealt with by earnings management, which can be measured and detected through multiple earning models. In our analysis, we focus on seven earnings management models whose input variables were available based on Amadeus data provided regarding the detection of earnings management in the Czech Republic. They represent accrual-based earnings management models that take into account the accrual principle. The accrual principle is a fundamental principle of double-entry accounting, according to which all transactions and events are accounted for and reported at the time of their occurrence, regardless of cash flows. This principle makes it possible to take into account, as far as possible, the performance of a given enterprise over a certain period, not just the cash flows reported from individual business activities. This paper aims to find and identify an earnings management model most appropriate to the conditions of the Czech Republic, which will be the basis for achieving relevant results of the analyzed set of Czech enterprises. In the analysis, we use regression, selection method, and comparison method, based on which we compare the detection capability of earnings management models for Czech enterprises.

Key words: *earnings management, accrual principle, earnings management models.*

1. Introduction

Accounting, as an ordered collection of information and data in financial statements, enables both internal and external users of financial information to determine the performance of a particular enterprise. (Valaskova Kliestik and Kovacova, 2018a, 106) One of the basic questions in determining the performance of an enterprise is its ability to transform inputs into outputs while making a profit. (Deggans, Krulicky, Kovacova, Valaskova and Poliak, 2019, 39) The management is eager to how and to what extent their resources are being

effectively and efficiently utilized, compared to other similar enterprises in the same or similar field. (Belas, Kocisova and Gavurova, 2019, 102) In practice, however, there may be opportunities to influence the accounting information through the use of different methods and techniques, and as a result, the financial statements lose their function and misrepresent the accounting data and manipulate the earning. Earnings manipulation is dealt with by earnings management, representing the strategy of reporting accounting earnings which are achieved by the discretion of managers over accounting choices and operating cash flow. (Phillips, Pincus and Rego, 2003, 493) Managers have greater incentives to make income-decreasing accounting choices if they believe that the regulators do not completely adjust for these choices. (Jones, 1991, 198) Earnings management can be measured and detected through multiple earning models. (Valaskova Kliestik, Svabova and Adamko, 2018b, 2) In the past and present, the evolving theory of earnings management distinguishes two groups of models, namely accrual-based earnings management models and real earnings management models. (Szkutnik and Szkutnik, 2018, 2) Despite a large number of earnings models, it is difficult to measure and detect earnings management in businesses in world countries, as these countries are becoming more global and complex. (Kovacova and Kliestik, 2017, 777) Each country is characterized by a different business environment, so there is no uniform model for measuring and detecting earnings management. Depending on the conditions affecting the business environment of individual enterprises operating in world countries, the use of profit models may differ from one another not only because of the size of the business but also because of its future development. (Chlebikova, Misankova and Kramarova, 2015, 252)

This paper aims to find and identify an earnings management model that is most suitable for companies in the Czech Republic and that will be the basis for achieving relevant results of the analyzed set of Czech enterprises.

The article consists of two parts. In the first part, we deal with the theoretical background of earnings management, namely the definition concept of earnings management, earnings management techniques and measurement and detection of earnings management taking into account earnings management models. The second part is focused on the assessment of the detection capability of individual earnings management models in the case of Czech enterprises and based on the assessment of the results we choose the most suitable earnings management model for Czech enterprises. In this section, we focus mainly on the detection capability of accrual-based earnings management models because they include accrual-based on which individual entities report costs and revenues in the period in which they arose, regardless of whether they have been settled. In our analysis, we evaluate the analyzed earnings models according to the adjusted coefficient of determination, the standard deviation of the independent variable, the level of statistical significance of earnings models and the level of statistical significance of the independent variable contained in earnings models. We use the Amadeus financial database to obtain the data needed to calculate the individual variables of the selected earnings models as the primary source. When selecting a sample of Czech enterprises, we apply classification according to financial criteria, existence, ownership, and operation on the market.

In the analysis, we use regression, selection method, and comparison method, based on which we compare the detection capability of earnings management models for Czech enterprises.

2. Theoretical background

2.1. Definition concept of earnings management

Earnings management is a set of management decisions that do not result in reporting actual, maximizing value short-term income. It can be favorable, unfavorable and neutral. Positive EM reflects the long-term value, unfavorable seeks to conceal short-term or long-term value, and neutral earnings management reflects true short-term performance. (Ronnen and Yaari, 2008, 27)

Earnings management reduces transparency in financial reporting and that is why managerial restriction induced by a lack of privacy can damage the interest of external subjects. (Arya, Glover and Sunder, 2013, 111)

Earnings management represents the desired number instead of pursuing some sort of protocol to produce a number that gets reported without regard to what some analysts predict that concrete enterprise will report. (Miller and Bahnson, 2002, 184)

Earnings management also represents the choice of managerial accounting policies to achieve specific objectives. (Scott, 2003, 369)

Earnings management can also be defined as an active profit manipulation with a predetermined goal that is defined either by the manager or as an analyst's prediction or by an amount that is consistent with a smooth and more sustainable income stream for a particular business. (Mulford and Comiskey, 2002, 58)

Some of the authors dealing with the issue of profit manipulation distinguish between white, black and gray earnings management. White earnings management is one of the ways of accounting, which depends on the level of flexibility to help indicate private information about the future cash flow of the enterprise. (Beneish, 2001,3) Black earnings management applies different techniques in an attempt to distort but also reduces the transparency of the enterprise's financial statements. (Schipper, 1989, 92) Gray earnings management makes use of the choice between opportunistic and economic accounting. (Fields, Lys and Vincent, 2001, 260)

Earnings management is a targeted intervention in the financial statements of an enterprise to achieve certain objectives. It is an activity in which an enterprise chooses an accounting policy without violating accounting rules. (Callo, Jarne and Wróblewski, 2014, 137)

2.2. Earnings management techniques

2.2.1. Cookie – jar reserve

It is an enterprise's earnings management technique aimed at generating excess cash reserves, not recorded in the financial statements, in profitable years representing funds to cover a liability that does not exist at the moment. The use of these reserves occurs only in a period when the enterprise has a lower profit. The aim of this technique is, therefore, to increase the profit of the enterprise in adverse years and to give the investor the impression that the enterprise is consistently meeting its earnings goals. (Rahman, Moniruzzaman and Sharif, 2013, 69)

2.2.2. Big bath

The big bath technique is based on the principle of influencing the accrual of costs. Managers do not expect a positive trend in revenue in the current period, trying to report more costs due to the deterioration of the current financial year consequence of higher profit in the following periods. (Nikolai, Bazley and Jones, 2010, 513)

2.2.3. Change billing

The process of preparing the financial statements must comply with the applicable accounting principles as the resulting financial statements provide relevant information to external entities. When choosing an accounting method, an enterprise should take into account all the factors affecting it and select an appropriate accounting method that reflects both the enterprise's income and expenses when it is necessary to change the accounting methods, as the current accounting method does not reflect the actual economic situation of the enterprise. (Brabenec, 2010, 927)

2.2.4. Operating and non-operating profit

Operating profit is regular and is expected to be recognized in the coming years as opposed to non-operating profit, which appears to be a one-off with volatile nature. Operating profit is considered to be a significant accounting item for entities using information from financial statements, and it is, therefore, important to classify its components correctly to avoid earnings manipulation. (Omar, Rahman, Danbatta and Sulaiman, 2014, 91)

2.2.5. Flushing the investment portfolio

Most countries compete for investment from abroad, whether the investment is made directly in the form of new ventures or indirectly through the shares of existing enterprises that are publicly traded. Higher returns, as well as lower volatility, can attract more market share of global equity portfolios created by investors looking for possible positions in emerging markets, depending on the strategy they are using to build their portfolios. (Huxley and Sidaoui, 2018, 37)

The flushing investment portfolio technique is based on the principle of buying securities from another enterprise to achieve a strategic alliance and invest excess cash. An enterprise manages profits by investing in negotiable securities or available-for-sale securities such as stocks or bonds constituting the most common assets in its portfolios. The gain or loss on the sale of marketable securities or the change in their market value is recognized in operating income, while changes in the market value of securities designated for sales are recognized in other comprehensive income. Once the available-for-sale securities are sold, the profit or loss they generate is generated in operating income. If there is no actual sale of either negotiable or available-for-sale securities, such sale results in unrealizable profits or unrealizable losses, which are included in profit but not in operating profit. (Chovancova, Hudcovsky and Kotaskova, 2019, 25)

2.2.6. Amortization, depreciation and consumption

Costs of long-term operating assets that have been used or consumed are reported as amortization (intangible assets such as goodwill patents, copyrights or trademarks), depreciation (tangible assets such as property, plant or equipment) or as costs of depletion (costs of depleting natural resources such as coal, oil, natural gas, etc.) during the period in which they are expected. Management has a decisive influence on the selection of the depreciation method, the depreciation period and the residual value. Earnings management using this technique is that if long-term operating assets are converted to non-operating assets, there is no need to generate depreciation or amortization costs. (Omar, Rahman, Danbatta and Sulaiman, 2014, 91)

2.3. Measurement and detection of earnings management concerning earnings models

Various earnings models are used to measure and detect earnings management. Earnings models are divided into two groups depending on whether they detect economic or accounting earnings management or are a combination of both. Real earnings management is the pursuit of management activities deviating from normal business practices to achieve a certain profit threshold. Real earnings management is more difficult to detect because it involves investment and operational decision-making strategies that ultimately affect the enterprise's cash flow. (Abad, Cutillas-Gomariz, Sánchez-Ballesta and Yagüe, 2018, 215) Real earnings management allows managers to conceal the actual performance of concrete enterprises. (Shabani and Sofian, 2018, 134) Accrual-based earnings management is based on accruals. The essence of the accrual principle is the accrual of costs and revenues. The fact that accrual is an important indicator of performance of enterprise causes accruals to be a means to make this performance look different from its actual position by managers having this intention. (Yurt and Ergun, 2015, 36) Existing earnings models of accruals have different explanatory power in world countries. Each earnings management model has the advantage of detecting only one aspect of manipulating the financial results of the enterprise, and there are still attempts for developing an improved model for the detection of manipulative financial reporting. (Bešlić, Bešlić, Jakšić and Andrić, 2015, 59) The total accrual can be decomposed into two parts, namely the discretionary and non-discretionary accrual, where the discretionary accrual is an optional expense that has not yet been realized but is recorded in accounting and a non-discretionary accrual is defined as a mandatory expense that has not accounted books. The evolution of earnings management detecting models begins with simple models abstracting from the non-discretionary accruals to more sophisticated alternative models that attempt to decompose the overall accrual into discretionary and non-discretionary. However, the decomposition of the overall accrual is very demanding and there is no systematic evidence of the real power of alternative earnings management detection models. (Dechow, Sloan and Sweeney, 1995, 212) The problem is that discretionary accruals and non-discretionary accruals are not directly detectable. The overall accrual models, therefore, aim to estimate the non-discretionary part. The discretionary accrual is then calculated as the difference between total and non-sparking accrual. (Hoglund, 2012, 9566) Depending on the assumption of constant non-discretionary accrual, we distinguish between static and dynamic models. Static models assume that the non-discretionary accrual is constant, unlike dynamic models that do not assume the constant non-discretionary accrual due to the influence of internal and external factors. The fact that the non-discretionary accrual is not constant is particularly important when examining earnings management under the circumstances of countries in financial crisis. The following table shows the evolution of earnings management models.

Table 1: Earnings management models

Accrual-based earnings management models	Year
The Ronen and Sadan model	1981
The Healy model	1985
The DeAngelo model	1986
The Industry model	1991
The Jones model	1991
The Modified Jones model	1995
The Competing-Component model	1995
The Jeter and Shivakumar model	1996
The Key model	1997
The Beneish model	1997
The Teoh, Welch and Wong model	1998
The Kasznik model	1999
The Margin model	2000

Accrual-based earnings management models	Year
The McNichols model	2002
The Spathis model	2002
The Hribar and Collins model	2002
The Dechow and Dichev model	2002
The Forward-Looking model	2003
The Larcker and Richardson model	2004
The Performance-Matching model	2005
The Kothari model	2005
The Paeho model	2005
The Business model	2006
The Stubben model	2010
The Dunmore model	2013
Real earnings management models	
The Roychowdhury model	2006
The Gunny model	2010
Combination of accrual-based and real earnings management models	
The Zang model	2012

Source: made by authors

3. Methodology

We use the Amadeus financial database to obtain the data needed to calculate the individual variables of the selected earnings models as the primary source. In the analysis, we use regression, selection method, and comparison method, based on which we compare the detection capability of earnings management models for Czech enterprises. When selecting a sample of Czech enterprises, we also test extreme values by applying the Z-score method, which takes into account two parameters, standard deviation, and means. For extreme values, we consider those which exceed the value of 3. In determining the statistical significance of the models and their variables, we use the F-test, where we determine the null and alternative hypothesis by comparing the test statistics with the critical value and also p-values with.

4. Results and discussion

4.1. Sampling of enterprises

When selecting a sample of Czech enterprises, we apply classification according to financial criteria, as well as existence, ownership, and operation on the market. As part of the selection process, we exclude businesses with missing data and businesses that show extreme values. The following table gives an overview of the number of enterprises after applying all these criteria.

Table 2: The selection of a sample of enterprises in the Czech Republic

Total number of enterprises in Amadeus	21084937
Total number of enterprises in the Czech Republic	**491110**
Total assets	> 5000 000 €
Number of enterprises	**11399**
Revenues	> 3000 000 €
Number of enterprises	**7336**
Earnings	> 100 000 €
Numbers of enterprises	**6700**
After removing missing values	**5313**
After removing extreme values	**4842**

Source: made by authors

4.2. Assessment of analysed earnings models

We evaluate the analysed earnings models according to the following criteria: adjusted coefficient of determination, the standard deviation of the independent variable, the level of statistical significance of earnings models and the level of statistical significance of the independent variable contained in earnings models. The following table gives an overview of the adjusted coefficient of determination of selected earnings models.

Table 3: Adjusted coefficient of determination of selected earnings models

Analysed model	The adjusted coefficient of determination			
	2015	2016	2017	Average value
Jones model	0.144403297	0.079271536	0.087386721	0.103687185
Modified Jones model	0.149485975	0.087854771	0.087854771	0.108398506
Jeter, Shivakumar model	0.146349799	0.079094195	0.087242561	0.104228852
Kasznik model	0.146794075	0,084959457	0.098072116	0.109941883
Key model	0.148779015	0.082281809	0.091803859	0.107621561
Teoh, Welch, Wong model	0.015836406	0.011887367	0.004181024	0.010634932
Kothari model	0.159218982	0.104696294	0.116557465	0.126824247

Source: made by authors

The lowest overall accrual variability is achieved with the model by Teoh, Welch, and Wong at 1.06%. The second-lowest explanatory force was registered in the Jones model at approximately 10.37%. The third lowest explanatory force was registered in the Jeter and Shivakumar models at 10.42%. Other models such as the Modified Jones model, the Key model, and the Kasznik model expressed variability in the overall accrual ranging from approximately 10.76% to 10.99%. The highest coefficient of determination in the Kothari model was 0.126824247, which represents variability of approximately 12.68%.

4.3. Standard deviation

We use standard deviation to capture the variability of variable values in a selected sample of Czech enterprises. Low standard deviation values indicate that the values of the individual variables are close to the average, with the result that the earnings model with such variables more clearly detects earnings management. Higher standard deviation values indicate a greater distance from the average and yield control detection is less effective. An overview of the standard deviations of each model is given in the following tables.

Table 4: Overview of Standard Deviations of the Jones Model

Year	Factor	Intercept	ΔREV	PPE
2015	Coefficient	0.047837	-0.047926	-0.247160
	Standard deviation	0.004699	0.005329	0.008983
2016	Coefficient	0.015757	-0.019060	-0.151847
	Standard deviation	0.003536	0.005311	0.007545
2017	Coefficient	0.015903	-0.014156	-0.158364
	Standard deviation	0.003789	0.004802	0.007340
Average	Coefficient	0.026499	**-0.027047**	**-0.185790**
	Standard deviation	0.004008	**0.005148**	**0.007956**

Source: made by authors

Based on Table 4, it can be seen that the average standard deviation of the Jones model, taking into account the independent variable (REV (change in sales), amounts to 19.03% of the averaged value of the coefficient. The average standard deviation of the independent

variable PPE (tangible fixed assets) reaches a lower value of approximately 4.28% of the average value of the coefficient.

Table 5: Overview of Standard Deviations of the Modified Jones Model

Year	Factor	Intercept	Δ REV – Δ REC	PPE
2015	Coefficient	0.048527	-0.057914	-0.247087
	Standard deviation	0.004669	0.005515	0.008954
2016	Coefficient	0.015784	-0.042305	-0.150988
	Standard deviation	0.003515	0.005530	0.007511
2017	Coefficient	0.020925	-0.037959	-0.161827
	Standard deviation	0.003730	0.005115	0.007290
Average	Coefficient	0.028412	**-0.046059**	**-0.186634**
	Standard deviation	0.003971	**0.005387**	**0.007918**

Source: made by authors

By modifying the independent variable ΔREV (change in sales), the average value of the standard deviation decreased to about 11.69% calculated from the average value of the coefficient. The average standard deviation of the independent variable PPE (tangible fixed assets) is approximately 4.24% of the average value of the coefficient.

Table 6: Overview of Standard Deviations of Jeter and Shivakumar Model

Year	Factor	Intercept	Δ REV	PPE	CFO
2015	Coefficient	0.036686	-0.051722	-0.250727	0.106530
	Standard deviation	0.005689	0.005435	0.009031	0.030709
2016	Coefficient	0.016415	-0.018739	-0.151692	-0.006462
	Standard deviation	0.004344	0.005452	0.007569	0.024756
2017	Coefficient	0.014861	-0.014675	-0.158870	0.011442
	Standard deviation	0.004355	0.004921	0.007414	0.023567
Average	Coefficient	0.022654	**-0.028379**	**-0.187096**	**0.037170**
	Standard deviation	0.004796	**0.005269**	**0.008005**	**0.026344**

Source: made by authors

The average standard deviation of Δ REV (change in sales) from that average coefficient is approximately 18.57%. PPE (tangible fixed assets) achieves a percentage of the average standard deviation of the aforementioned average coefficient value of approximately 4.28%; the cash flow variable (CFO) represents the percentage of the average standard deviation of the averaged coefficient at around 71.07%.

Table 7: Overview of Standard Deviations of Kasznik Model

Year	Factor	Intercept	Δ REV	PPE	ΔCFO
2015	Coefficient	0.047255	-0.053315	-0.249742	0.152881
	Standard deviation	0.004695	0.005506	0.008996	0.040067
2016	Coefficient	0.015727	-0.029581	-0.152280	0.208850
	Standard deviation	0.003525	0.005621	0.007522	0.037463
2017	Coefficient	0.016921	-0.024126	-0.163963	0.251802
	Standard deviation	0.003769	0.004949	0.007333	0.032970
Average	Coefficient	0.026634	**-0.035674**	**-0.188662**	**0.204511**
	Standard deviation	0.003996	**0.005359**	**0.007950**	**0.036833**

Source: made by authors

The average standard deviation of Δ REV (change in sales) is a percentage of the coefficient at 15.02%. The average standard deviation PPE (tangible fixed assets) amounts to a percentage of approximately 4.21%. The third variable ΔCFO, the change in cash flow,

represents the percentage of the average standard deviation of the above-mentioned average coefficient at around 18.01%.

Table 8: Overview of Standard Deviations of Key Model

Year	Factor	Intercept	Δ REV	PPE	IA
2015	Coefficient	0.053866	-0.047170	-0.250238	-0.949278
	Standard deviation	0.004834	0.005318	0.008980	0.186618
2016	Coefficient	0.019524	-0.018040	-0.154268	-0.601474
	Standard deviation	0.003648	0.005309	0.007556	0.146428
2017	Coefficient	0.020617	-0.014224	-0.161512	-0.161512
	Standard deviation	0.003897	0.004791	0.007349	0.136127
Average	Coefficient	0.031336	**-0.026478**	**-0.188672**	**-0.570755**
	Standard deviation	0.004126	**0.005139**	**0.007962**	**0.156391**

Source: made by authors

The first variable Δ REV (change in sales) represents the percentage of the average standard deviation from the average of the coefficient value at approximately 19.41%. PPE variable, tangible fixed assets, is characterized by a percentage of the average standard deviation from the average of the coefficient at around 4.22%. The third variable is IA, intangible fixed assets, the percentage of which is 27.40%.

Table 9: Overview of Standard Deviations of Teoh, Welch and Wong Model

Year	Factor	Intercept	Δ SALE – Δ REC
2015	Coefficient	-0.050535	-0.052664
	Standard deviation	0.003212	0.005929
2016	Coefficient	-0.041713	-0.044289
	Standard deviation	0.002127	0.005754
2017	Coefficient	-0.045777	-0.024621
	Standard deviation	0.002320	0.005332
Average	Coefficient	-0.046008	**-0.040525**
	Standard deviation	0.002553	**0.005672**

Source: made by authors

For the ΔSALE - ΔREC variable of this model, the average standard deviation is a percentage of the average coefficient value of 14.01%.

Table 10: Overview of Standard Deviations of Kothari Model

Year	Factor	Intercept	Δ REV – Δ REC	PPE	ROA
2015	Coefficient	0.024284	-0.063030	-0.237619	0.003092
	Standard deviation	0.005644	0.005525	0.008990	0.000409
2016	Coefficient	-0.005778	-0.051382	-0.139447	0.002775
	Standard deviation	0.004145	0.005559	0.007538	0.000289
2017	Coefficient	-0.000087	-0.045328	-0.153413	0.003042
	Standard deviation	0.004182	0.005104	0.007250	0.000286
Average	Coefficient	0.006140	**-0.053247**	**-0.176826**	**0.002970**
	Standard deviation	0.004657	**0.005396**	**0.007926**	**0.000328**

Source: made by authors

A total of three variables enter the model of Kothari. For the first variable Δ REV - Δ REC, the average standard deviation is a percentage of the average of the coefficient at around 10.13%. In the case of the PPE variable, tangible fixed assets represent this percentage of 4.48%. The third ROA variable, return on assets, is characterized by a percentage of the

average standard deviation from the average coefficient value of approximately 11.05%. Based on the results of the average standard deviation as a percentage of the average value of the coefficients of the individual variables, we can see that high standard deviation values reach the Jones model, Modified Jones model, Jeter and Shivakumar model, Kasznik model and Key model. Models that meet the second criterion, the standard deviation, are the Kothari model and the model by Teoh, Welch Wong.

4.4. Statistical significance of models

The statistical significance of the analyzed earnings models is tested using the F test by determining the null hypothesis (H0) - the analyzed model is not statistically significant and the alternative hypothesis (H1) - the analyzed model is statistically significant. The analyzed model is not statistically significant if the value of the test statistic compared to the critical value is greater, which means that we accept the alternative hypothesis and we reject the null hypothesis. The percentage of statistical significance of individual earnings models is shown in table 11.

Table 11: Statistical significance of earnings models

Analyzed model	Period			Statistical significance %
	2015	2016	2017	
Jones model	H1	H1	H1	100
Modified Jo model	H1	H1	H1	100
Jeter and Shivakumar model	H1	H1	H1	100
Kasznik model	H1	H1	H1	100
Key model	H1	H1	H1	100
Teoh, Welch and Wong model	H1	H1	H1	100
Kothari model	H1	H1	H1	100

Source: made by authors

In the monitored period 2015 - 2017 all analyzed earnings models appear to be statistically significant, as their percentage expression of statistical significance reached 100%.

4.5. Statistical significance of variables

The statistical significance of variables is tested by comparing the p-value and significance level ($\alpha = 0.05$). If p is less than the significance level, we reject the null hypothesis (H0) - the variables are not statistically significant and we accept the alternative hypothesis (H1) - the variables are statistically significant. The percentage of statistical significance of the variables of the analysed profit models is shown in table 12.

Table 12: Statistical significance of variables

Analysed variables	Period			Statistical significance %
	2015	2016	2017	
Jones model				
ΔREV	**H1**	**H1**	**H1**	**100**
PPE	**H1**	**H1**	**H1**	**100**
Modified Jones model				
$\Delta REV - \Delta REC$	**H1**	**H1**	**H1**	**100**
PPE	**H1**	**H1**	**H1**	**100**
Jeter and Shivakumar model				
ΔREV	**H1**	**H1**	**H1**	**100**
PPE	**H1**	**H1**	**H1**	**100**
CFO	**H1**	**H0**	**H0**	**33.33**

Kasznik model				
ΔREV	**H1**	**H1**	**H1**	**100**
PPE	**H1**	**H1**	**H1**	**100**
ΔCFO	**H1**	**H1**	**H1**	**100**
Key model				
ΔREV	**H1**	**H1**	**H1**	**100**
PPE	**H1**	**H1**	**H1**	**100**
IA	**H1**	**H1**	**H1**	**100**
Teoh, Welch and Wong model				
ΔSALE – ΔREC	**H1**	**H1**	**H1**	**100**
Kothari model				
ΔREV – ΔREC	**H1**	**H1**	**H1**	**100**
PPE	**H1**	**H1**	**H1**	**100**
ROA	**H1**	**H1**	**H1**	**100**

Source: made by authors

The Jones model in the reporting period 2015-2017 shows statistically significant variables with a percentage of statistical significance to 100%. As with this model, the Modified Jones model shows statistically significant variables in all three periods. Their percentage expression of statistical significance is 100%. The model of Jeter and Shivakumar shows statistical insignificance for the CFO (cash flow) variable in 2016 and 2017 when the percentage of statistical significance reaches only 33.33%. The Kasznik model records statistically significant variables in 2015. As in 2015, in the next two years, all variables are statistically significant. In the reporting period 2015 - 2017, the Key model records the statistical significance of individual variables with a percentage of 100%. The Teoh, Welch and Wong and Kothari models also show statistically significant variables with a percentage of their statistical significance at 100%.

4.6. Overall evaluation of earnings models

Table 13: The overview of fulfilled criteria of earnings management models

Analyzed model	The adjusted coefficient of determination	Standard Deviations	Statistical significance of models	Statistical significance of variables	Fulfilled criteria
Jones model	no	no	yes	yes	2
Modified Jones model	no	no	yes	yes	2
Jeter and Shivakumar model	no	no	yes	no	1
Kasznik model	yes	no	yes	yes	3
Key model	no	no	yes	yes	2
Teoh, Welch, Wong model	no	yes	yes	yes	3
Kothari model	yes	yes	yes	yes	**4**

Source: made by authors

Jeter and Shivakumar have the lowest number of met criteria with one. This model only meets the criterion of statistical significance of the model. The non-compliant criteria are the adjusted coefficient of determination, standard deviation and statistical significance of the variables. Others are Modified Jones model, the Jones model and Key model with 2 out of four criteria met. The modified Jones model fulfilled the statistical significance of the model, but also its variables, but did not meet the criterion of the adjusted coefficient of

determination and standard deviation. The same was true of the Jones and Key models. The model by Teoh, Welch and Wong and Kasznik meet three of the four criteria. The Kasznik model fulfills the criterion of an elaborated coefficient of determination and statistical significance of the model and its variables. The Teoh, Welch, and Wong model meets the standard deviation and statistical significance criteria of the model and its variables. The most effective was the Kothari model, which met all set criteria, which are the adjusted coefficient of determination, standard deviation, the statistical significance of the model and statistical significance of individual variables. This model seems to be the most satisfactory because in the reporting period of three years, 2015-2017, it shows the highest explanatory power, the lowest standard deviation values of dependent variables, the model as a whole is statistically significant in 2015-2017 and its variable is statistically significant in all years, with a percentage of statistical significance reaching 100%.

5. Conclusion

This paper aimed to find and identify an earnings management model most appropriate to the conditions of the Czech Republic, which will be the basis for achieving relevant results of the analyzed set of Czech enterprises. We consider the objective of our research to be fulfilled. When selecting a sample of Czech enterprises, we applied classification according to financial criteria, as well as existence, ownership, and operation on the market. As part of the selection process, we excluded businesses with missing data and businesses that showed extreme values. The total number of enterprises that the financial database Amadeus generated was 21084937. Within the Czech Republic, the total number of enterprises was 491110. After taking into account all the criteria set, our analyzed sample represented 4842 Czech enterprises. We performed an analysis of the earnings management models by establishing four criteria, which include the adjusted determination coefficient, the standard deviation of the independent variable, the level of statistical significance of the profit models and the level of statistical significance of the independent variable contained in the profit models. Through the analysis, we evaluated whether the analyzed earnings management models meet the set criteria or not. We used the Amadeus financial database to obtain the data needed to calculate the individual variables of the selected earnings models as the primary source. Two models out of seven met the criterium adjusted coefficient of determination: the Kothari model and the Kasznik model. The standard deviation criterium was met by two models from the seven analyzed models, namely the Kothari model and the Teoh, Welch and Wong model. All models were statistically significant in assessing the statistical significance of the analyzed accrual-based earnings models. Six models out of seven fulfilled the statistical significance of variables contained in the analyzed models: Jones model, Modified Jones model, Kasznik model, Kothari model and Teoh model, Welch and Wong model. The most effective was the Kothari model, which met all set criteria, which are the adjusted coefficient of determination, standard deviation, the statistical significance of the model and statistical significance of individual variables. This model seems to be the most satisfactory because in the reporting period of three years, 2015-2017, it shows the highest explanatory power, the lowest standard deviation values of dependent variables, the model as a whole is statistically significant in 2015-2017 and its variable is statistically significant in all years, with a percentage of statistical significance reaching 100%.

Acknowledgments

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THE ROLE OF AFFECT AND COGNITION IN THE ENTREPRENEURIAL THINKING AND ACTION

ABSTRACT

Over the past few years, affect and cognition research has been used in a very promising way in the field of entrepreneurial research. Recent works suggest that the processes that involve cognition and affect (moods, feelings, emotions) have an impact on opportunity evaluation, decision making, problem solving and idea exploitation. Extending these research findings to entrepreneurship, affect evolves into a key aspect.
It is essential to broaden our understanding of how entrepreneurs think, feel and act, which will lead us to a deeper knowledge of the entrepreneurial process. A theoretical framework of the impact and the interactive effects of cognition and affect on the stages between entrepreneurial thinking and action is developed in this paper. Especially, the impact of affect and the role of different cognitive styles as potential moderators of thinking and acting in the field of entrepreneurship is examined in the same time. It is demonstrated that positive and negative affect effect in various ways the entrepreneurs' thinking and acting, and the necessity is pointed out that affect and intuition must be placed within the broader frame of cognition, so that feelings and emotions will be seen as a tool and factor for entrepreneurial rationality. The main purpose of this article is to propose and provide a multivariable theoretical background that may form the basis for future multi-perspective investigation of the influence of affect on entrepreneurial thinking and action. Last but not least, it is suggested that it is essential to support the development of guidance techniques, which will help entrepreneurs to understand their personal characteristics and cognitive, affective and intuitive abilities in order to think and act more effectively.

Key words: *entrepreneurship, affect, cognition, intuition, positive and negative feelings.*

1. Introduction

Entrepreneurship has been an area that has attracted a significant number of researchers in recent decades. The need for innovation in business action and thinking leads to the creation of new markets, new products and new production methods. Entrepreneur is not only that one who implements an innovative or original idea, but also the one who develops, evolves and modernizes an existing business through new services and products. Regardless of the nature or size of a business, the ability of an entrepreneur to make decisions, discover or create opportunities, capture ideas and solve problems is a critical element not only for the success of his business but also for its viability. The above tasks of the multidimensional role of the entrepreneur are set in a circular, continuous process independently of the category to which he belongs.

This cyclical business process is based on exploiting all the information and reducing any possible uncertainties and threats. The emotional state of the entrepreneur influences his thinking and action, while differentiating his behavior. Different emotions influence his

judgment in different ways since they determine how he interprets reality, allowing him to choose alternative and original opportunities, solutions, ideas or decisions for action, while helping him to identify threats, risks and uncertainty. Feelings and emotions have a critical impact on the entrepreneur's personal career path and thus on the viability of his business (Frith and Singer, 2008).

The affect is linked to the way entrepreneurs perceive and interpret reality, shape their perceptions and beliefs, how they associate and combine their intuition, emotions, and cognitive skills. The effect of affect influences all aspects of business thinking and action, since it has a direct impact on the expectations, moods, desires and aspirations of the entrepreneur. By virtue of this they shape their behavior, exercise their memory and attention, as well as trigger their emotions that lead to the acceptance, rejection, reaction, avoidance, attraction of ideas, decisions, solutions and opportunities. This effect is determined by the personality traits of the entrepreneur, his biases and heuristics, as well as his individual personal characteristics, which provide the necessary explanations for the differences in the behavior, perception and information acquisition (Zahra, 2011).

Alvarez and Barney (2007) have argued that entrepreneurial thinking and action have two perspectives: that of creation and that of discovery. The first one assumes that opportunities, ideas, solutions and decisions do not exist until activated by the entrepreneurs themselves, which implies that any differences arise as deviations in the way they perceive and value the reality that surrounds them (Aldrich and Kenworth, 1999). The second perspective, of discovery, presupposes that opportunities, ideas, solutions and decisions already exist and what remains is for entrepreneurs to grasp and exploit them appropriately (Shane, 2003). Studies related to knowledge, affect, and intuition (Isen and Reeve, 2006) provide a useful background for understanding the role of cognitive abilities and cognitive style in business thinking and action. According to the principles of neurobiology, the notion is supported that cognitive abilities interact with the affect and the intuition within the human brain (Cohen, 2005), a condition that determines the organization of actions for reducing the uncertainty and potential risks, for the enhancement of feasibilities and the better adaptation of new information to existing knowledge (Dimov, 2010). Studying this cognitive and reasoning process illuminates the way entrepreneurs perceive the reality around them (Mitchell et al., 2007).

The importance of affect has attracted the interest of scholars involved in entrepreneurship, many of whom focus on the relevance of the entrepreneur's emotional state to his motivation (Foo et al., 2009), with his self-control and self-restraint, as well and his behavior (Ngah and Salleh, 2015). Concerning the influence of the affect on the entrepreneur's motivation, Foo et al. (2009) showed that there is a correlation between his emotional state and the levels of effort he makes. Similarly, Cardon et al. (2009) noted the positive effect of passion (as an emotional state) on the entrepreneurial action. Concerning self-control and self-management, Shepherd and Cardon (2009) identified an association between coping with challenges and uncertainties, and the capability of the entrepreneur to effectively manage his negative emotions. Both the degree of motivation and passion of the entrepreneur, as well as his capability to manage his emotions, greatly influence his business thinking and action.

The current article attempts to form a theoretical background on which future studies may be based that will aim to explore the connection between entrepreneurial action and thinking with the cognitive-emotional-intuitive process which is presupposed by the activation of the affect. Although some of the gaps in the international literature as far as this question is concerned have not been covered yet by research, the importance of this article lies in the collection, presentation, and synthesizing of the necessary variables that highlight the importance of affect in the career path of an entrepreneur, given that it complements his already existing knowledge,

cognitive skills and intuitive ability. The intention of the researcher was on the one hand to make clear the necessity of extensive co-examination of affect with the cognitive skills and intuition that are activated in the process of business thinking, and on the other hand to demonstrate that a sufficiently well-grounded multivariable theoretical basis also highlights the role of affect in the field of entrepreneurial psychology, not just in its narrow context, but extensively in a broader view.

2. Entrepreneurial knowledge, cognitive style and intuition

Entrepreneurial knowledge refers to the cognitive structures and skills that are activated by potential or active entrepreneurs in the process of making assessments, reflecting and critically evaluating, thinking combinedly, managing existing and new knowledge in order to decide and act (Mitchell et al., 2002). It has been argued that the cognitive mechanisms can play a critical role in people's thinking, speech and action, as well as in achieving the opportunities sought after (Cope and Down, 2010). A particular facet of entrepreneurial cognition is the ability to perceive risk, so that entrepreneurs are alert towards a potential opportunity or threat (Allinson et al., 2000). In complex, uncertain and under pressure situations, where there is not enough clear data, intuition is considered as a way of effectively thinking and acting (Adaman and Devine, 2002), as well as filling in the gaps of objective knowledge with creative, critical, substantiated subjective perceptions.

The entrepreneur's thinking and action depend on the perception of existence of a genuinely favorable situation for starting, expanding or transforming a business and on properly evaluating its viability. Business intuition is very often not conscious, a fact that turns it in being the result of the entrepreneur's affect. The process of identifying and evaluating business opportunities, developing original ideas, problem-solving and decision-making is often based on unconscious cognitive abilities and is manifested through the affect as entrepreneurial intuition. This is the recognition of a viable business opportunity, which in its turn leads to a decision-making resulting from holistic, unconscious, immediate and involuntary connections of knowledge, memories and emotions, from which new elements emerge that facilitate the entrepreneur to create value (Dane and Pratt, 2007).

Business intuition also refers to the entrepreneur's alertness to make intellectual interpretations and representations in order to perceive the value of a resource, of an idea, solution, opportunity or decision. This is an aspect of individual differentiation that is gained either through practice - training or is available by nature to only a few individuals, which helps them to understand what others cannot. Alertness arises as a result of an individual's innate abilities, his educational or experiential background, or as a result of the quality or quantity of information available to him (Ardichvili et al., 2003). Alertness is also an important building block of his cognitive potential (Krueger, 2000). In order for an entrepreneur to make the most of an opportunity presented to him, he must possess a combination of social and cognitive skills, such as creative intuition, which contributes to the development of innovative ideas, alertness, which helps to identify opportunities and evaluate the "good" and "bad" ideas, insight, which contributes to the intuitive perception of all that is beyond the "now" and the "tangible", as well as persuasion, which contributes to the society of the value of subjective intuitions (Dutta and Crossan, 2005).

The definition of intuition, though varied, seems to relate to four characteristics: intuitive processes are seemingly effortless, unconscious and rapid, dependent on heuristics as experiential experiences (Epstein, 2010), are holistic in the sense that they require the recognition of notions, standards and structures, with the main purpose of promoting the thought and action. In any case, these intuitive processes are directly involved with one's affect and emotional world (the emotions and feelings) (Burke and Miller, 1999). Creativity, in the

sense of introducing new and innovative ideas, largely presupposes intuition as an unconscious and rapid cognitive process (Shah et al., 2003). This helps entrepreneurs break free from analytical thinking and rigorous logic in order to keep their minds open to the search for new and alternative ideas, possibilities, information and opportunities. The more creative the entrepreneurs are as individuals, the more efficient they are (Benedek and Neubauer, 2013). The intuitive process is automatic, unconscious, and rapid whereas the rational process is intentional, conscious, and slow (Evans, 2010); both are determined by the individual experiential knowledge and cognitive abilities (Epstein, 2010). Entrepreneurial thinking and action require both the intuitive (heuristic) and the rational (algorithmic, analytic) thinking (Mitchell et al., 2005).

Entrepreneurs, whether they are at their startup or are considered to be highly experienced, tend to use their intuition when called upon to solve problems, exploit possible and potential opportunities, make decisions, identify or create new opportunities (Dew et al., 2009). The difference between them is that young entrepreneurs tend to impart their intuitive decisions to their affect, while experienced entrepreneurs justify their intuitive way of thinking in their prior knowledge. Entrepreneurs also differ in their cognitive style, that is, in the way they collect, manage, process, organize and exploit information. This style functions as heuristic that covers not only the perceptual level but also the meta-cognitive level (Kozhevnikov, 2007).

In the field of entrepreneurship, the cognitive styles are the analytical and the intuitive (Kickul et al., 2009). The first one is completed in the course of a process that provides for broad search, cognitive openness, and the correlation of all information (given or not), while the second one concerns the systematic approach to processing informational data. The entrepreneurs adopting the intuitive style take risks, transform data, give multiple answers, combine scattered data, create new perspectives, have a broad view of reality, distinguish the important from the insignificant, while the ones adopting the analytical cognitive style tend to comply, to use the structured path of problem solving and to follow a careful, rigorous and critical reasoning (Cropley, 2006).

Intuitive entrepreneurs are able to make creative and combinational reasoning, which not only derives from their existing knowledge or cognitive skills, but arises as a natural consequence of their affect and the emotional relationships they develop. These relate to intuitive preferences that allow his emotions and thoughts to "be channeled" and "wander", providing him with important feedback for their evolution (Dutta and Thornhill, 2005). Entrepreneurs with an intuitive cognitive style appear to be more balanced and are more focused on data verification, expertise, creativity, know-how, non-compliance with what is traditionally accepted, more "open" ways of problem-solving and holistic and synthetic ways of thinking (Groves et al., 2008).

Allinson et al (2000) found that "intuitive" entrepreneurs discover or create more often the appropriate opportunities, develop more effective ideas, solve problems more effectively, and make more decisive decisions as they face environments of uncertainty where there is scarcity of information, high levels of ambiguity, time pressure and complexity. However, Baron (2008) argued that it is important for entrepreneurs to alternate the cognitive styles, depending on the situation they face, the existing conditions and the available information. This is because cognitive styles give different content to business thinking and action (da Palma et al., 2009): on the one hand, intuitive style can be useful for seeking opportunities, inspiring ideas, identifying a problem, justifying a decision, searching for alternative and untapped paths, generating innovative and "bold" ideas, and on the other hand the analytical style can be useful in creating, implementing, finding solutions and documenting them respectively (Alvarez and Barney, 2007).

3. Cognitive mechanisms, negative and positive affect

Affect influences cognitive mechanisms and analytical reasoning skills in the process of making a decision, discovering or creating opportunities, selecting a problem, developing an idea, or interpreting information (Converse et al., 2008). The more intense the affect of a person is, the more it affects his cognitive functions and behavior (Forgas and George, 2001), therefore his thoughts and actions are influenced. In "fluid" environments, a person's psychological state and affect are shaped depending on the current moods that are produced by external events and stimuli (Watson et al., 1988). Situations of increased uncertainty can cause intense emotional reactions that have a direct effect on the behavior and attitudes of the person experiencing them (Baron, 2008). Entrepreneurs are faced with uncertain and unpredictable situations almost daily (Santos and Eisenhardt, 2009).

Affect includes basic senses, such as hunger, thirst, emotions, such as happiness, anger, fear, and moods, which are related in respect of their two aspects (the negative and the positive), as well as in respect of the motives for their acceptance or avoidance, with the ultimate aim of protecting the individual (or business) (Camerer et al., 2005). The affect may be conscious or unconscious. The distinction between moods and emotions lies in their duration, intensity, and content, since the former are usually without apparent reason, have vague cognitive content, long duration and low intensity, while the latter are caused by a particular cause, have clear cognitive content, short duration and high intensity (Forgas, 1995). In spite of the above differentiations both moods and emotions significantly influence the cognitive processes since they are triggered by common mechanisms (Forgas, 1995).

The notion of "affect" encompasses both moods and emotions, and concerns both their positive and negative dimensions. The first one relates to the facilitation of a person's behavior through focusing, promoting and approaching, while the second one relates to the inhibition of the behavior through prevention, avoidance, and rejection (Watson et al., 1999). What should be noted here is that negative affect is not related to the lack of positive affect and vice versa. The effect of affect depends on one's cognitive skills and vice versa, although both stimulate different areas of the brain (Cohen, 2005). Often affect and cognition are activated and operate together, but this does not preclude one from overriding the other (Camerer et al., 2005). At the same time, Sanfey et al. (2003) have shown through their research that there is a correlation between rejecting or accepting an idea, an opportunity, a solution or a decision and the degree of cognitive and emotional activity.

The entrepreneurial idea or opportunity or decision or solution gains value and is shaped into something tangible when the uncertainties, threats and risks associated with it are reduced (Dimov, 2011). In order to deliver a business idea, the entrepreneur is required to manage and deal effectively with the above in order to minimize the uncertainty (Alvarez and Barney, 2007). The entrepreneur's idea and intentions act as the driving forces that help him to evolve, that is, to act primarily to eliminate uncertainties (Dimov, 2007). This action is essentially a type of behavior aimed at collecting that information that will help to correctly evaluate a thought and the components that make it useful or not, attractive or not, "good" or "bad" (Dimov, 2011). In this light, the entrepreneur is not required to be one-dimensionally insightful, but capable of triggering a cyclical cognitive and emotional process, starting from his deepest desire to reduce risks, continuing with the seeking, collecting, managing and processing the information, and ending with the implementation of the idea (Krueger, 2007).

The influence of affect is revealed in the entrepreneur's alertness levels to examine the external environment, collect information (Shane, 2003), retrieve existing knowledge from his memory and make syntheses (Baron, 2008). Alertness depends on individual and social capital,

cognitive abilities, general or special knowledge, level of education, experience, intellectual scenarios and patterns that contribute to the acquisition and transformation of data (Davidsson and Honig, 2003). Along with alertness, the affect also influences attention (Fredrickson, 2001), since when a person experiences negative emotional states, it is often difficult to focus his attention. For example, when a person experiences intense fear, he or she focuses on avoiding unpleasant situations without focusing on where they should be. Similarly, when he feels intense anger, he only focuses on his need to attack, reject, or get rid of the cause of that emotion. On the contrary, when a person experiences positive emotions, he is calm enough to focus his attention or to be alert in order to think or act (Fredrickson, 2001).

Affect influences the active and passive process of storing information and retrieving it from memory (Baron, 2008). Research in cognitive psychology has shown that the affect impedes or facilitates individual capital through its effect on memory recall. Positive affect also has a positive effect on recalling information and subjective experiences, both consciously and unconsciously, resulting in the person developing codes that associate elements of reality with instincts, stimuli, or feelings of acceptance or rejection, attractiveness or aversion (Naqvi et al., 2006). The effect of affect on memory, and therefore on the actions that a person will develop, is twofold: on the one hand it acts as the strong stimulus that alerts the individual and motivates him to recall information from his memory, and on the other hand "dictates" to the person exactly what to recall in his memory (Bechara and Damasio, 2005).

Affect has a significant influence on creativity, which is related to decision making, discovery or opportunity (Baron, 2008). Creativity is perceived as a variable that drives people to "see" the world differently and to think of new ideas that others have not yet thought of. Positive affect is associated with increased creativity (Ashby et al., 2002), whose basic component is innovation and knowledge (Amabile et al., 2005). A person's positive emotional state enhances his cognitive skills, his ability to generate new ideas and his creative performance; it is linked to the cultivation of his ability to categorize information, standard or non-standard, as well as the ability to overcome obstacles. (Gaglio and Katz, 2001).

Researchers who study multiple aspects of entrepreneurship from a cognitive perspective recognize the importance of the perceptions of desire and feasibility in shaping the entrepreneur's intentions (Krueger, 2007). Positive affect, in the case of entrepreneurial thinking and action, has a significant impact on the entrepreneur's primary effort to reduce the uncertainty. When the entrepreneur has sufficient knowledge concerning the feasibility of an idea or decision, he feels more secure and confident, and intends to proceed to its implementation or making respectively (Dimov, 2010). In this light, the entrepreneur's intention to proceed with his plan, which includes his original idea, depends on his positive emotions affecting his expectations. The affect pushes the entrepreneur to think of more ways through which uncertainty can be reduced, which is due to the expansion or enhancement of his cognitive abilities. When an entrepreneur is in a certain emotional state, he thinks and acts differently, usually according to it.

The way in which the negative or positive affect influences the individual is not always the same, as multiple results have been recorded in research (Watson et al., 1988). Usually people who experience positive affect try to maintain their positive emotional state and tend to value work and the world positively. They perceive their environment not as hazardous, uncertain or threatening, and thus do not seek further information about it. They feel confident about their cognitive skills and when managing information, they activate cognitive mechanisms that can help them cope with situations. Along with the positive perception of reality, the individual acquires positive self-awareness, self-image and a wider range of cognitive resources, as well as enriching the information provided and generating new data (Fredrickson and Joiner, 2002).

In this light, entrepreneurs with a positive affect process information and activate their cognitive abilities to the fullest. This means that entrepreneurs who do not achieve the expected results can reinforce the link between intuitive cognitive style and opportunities through the positive affect.

Bohner et al. have shown through research that entrepreneurs who prefer the analytical cognitive style and who are in a positive emotional state usually find that it is not necessary to collect individual information. This means that they are less likely to make an effort to seek information or utilize general knowledge structures. Therefore, positive affect may interrupt the analytical reasoning, which requires activation and use of cognitive skills (Wegener et al., 1995). In this case, positive affect seems to influence negatively the relevance of analytical cognitive style and entrepreneurial opportunities and positively the relevance between intuitive cognitive style and entrepreneurial opportunities.

Negative affect describes the situation in which the individual experiences high levels of anxiety, fear, anger, etc., and focuses on the negative aspects of the reality surrounding him (Watson and Pennebaker, 1989). They are more likely to view their situation as potentially problematic and the environment as threatening, ambiguous and negative in providing the necessary information. According to Bies et al (1997) they are likely to feel less confident about their cognitive abilities and have no incentive to seek or exploit any other information beyond their knowledge (Grobbink, et al., 2014). Thus, people who experience negative affect often make more careful use of the information they receive, scrutinizing social interactions, hidden meanings, and threats (Schwarz, 2010).

Likewise, when entrepreneurs interpret information and activate their cognitive mechanisms to create opportunities, those experiencing negative affect are more likely to use accurate and attentive information. Negative affect weakens the relationship between intuitive cognitive style and the creation of business opportunities, while at the same time entrepreneurs who follow the analytical cognitive style are better equipped to process or search for information. As for the latter, that is, information seeking, which contributes to the discovery of opportunities, again entrepreneurs experiencing negative affect tend to scan new information to solve problems in current adverse situations (Alvarez and Barney, 2007). Entrepreneurs who adopt a detailed cognitive style and discover existing business opportunities, those with negative affect are more likely to interpret the data carefully and analyze the information they receive externally. Based on this reasoning, it is expected that when entrepreneurs with analytical cognitive style seek opportunities that have clear results, negative affect may influence positively the positive relationship between analytical cognitive style and the opportunities that entrepreneurs discover (Alvarez and Barney, 2007).

4. Discussion

Entrepreneurial thinking and action, in the light of affect and intuition, embody two "romantic" aspects of the entrepreneur, as someone who reaches into speculation or certainty in regards to discovering or creating new opportunities, developing innovative ideas, decision making and problem solving (Shane and Venkataraman, 2000). According to Dane and Pratt (2007) intuition is an involuntary, difficult to quantify, based on affect cognitive or judgmental skill that is derived from holistic connections, without prior activation of conscious or intentional logical thinking. The affect that turns out as a result of the intuitive process signals the challenges a person has to face in order to accept or avoid an external stimulus that will lead him to a good or bad decision (Blume and Covin, 2011).

Affect is associated with knowledge in the field of entrepreneurship, mainly in the perception or creation of opportunities, in decision making, in the development of new ideas and in solving problems. Given that the key requirement for achieving the above is to reduce uncertainty and threats related to business action and thinking, this research was focused on illustrating the impact of the entrepreneur's emotional state on his intention to seek, expand and succeed in the feasibility of his idea or his decision. The entrepreneur's intentions are influenced by his affect (moods and feelings) either positively or negatively (Hmieleski and Baron, 2009). Those who have positive affect are more likely to develop ideas, discover or create opportunities, make decisions, compared to those who experience negative emotional states (Hmieleski and Baron, 2009). Entrepreneurs with positive affect usually have a positive disposition, manifested in the collection, recall, management, processing and synthesis of information. The positive disposition of the entrepreneur makes him optimistic and motivates him to perceive and create opportunities everywhere (Hmieleski and Baron, 2009; Segerstrom adn Solberg Nes, 2006). It should be noted at this point that the positive affect and positive attitude of the entrepreneur do not always lead to success, as researchers have shown that they are also related to their negative performance (Hmieleski and Baron 2009), as they lead to a very high degree of optimism which is often misleading.

The vigilant and alert entrepreneur correctly understands the reality of the market, assesses the critical factors, and identifies the essential relationships that are developed in the given environment. The impact of affect can be assessed in the theoretical context where business thinking and action are seen as essential elements of a cyclical ongoing process of understanding, interpreting and evolving environmental data. The emotional state of the entrepreneur largely determines this course (Dimov, 2007). The affect, negative or positive, helps to increase attention and stimulate alertness, which both help the entrepreneur to observe particularly unusual, attractive or dangerous data, to challenge and make alternative classifications (Gaglio and Katz, 2001).

Many studies focusing on the exploration of cognitive mechanisms, affect, and entrepreneurial thinking and action, while not fully validating the theoretical positions mentioned above, confirm that it is not only the stable cognitive characteristics of the entrepreneur, such as optimism (Hmieleski and Baron, 2009) or the increased sense of danger (Palich and Bagby, 1995) affecting his entrepreneurial activity and seeking opportunities, but also the short-term emotional experiences, which affect the irrational behavior. Davis (2009) found an association between affect and creativity, demonstrating that the positive effect of positive emotion on creativity is significant in relation to the negative or neutral emotional states. However, it has been shown that inducing negative emotions can influence positively the entrepreneurial thinking and action (George and Zhou, 2007). Characteristically, Grichnik et al. (2010) found that negative affect is important in evaluating and exploiting business opportunities and that often positive affect reduces the willingness of entrepreneurs to take advantage of new opportunities or data.

Understanding the factors, forces and variables that facilitate, promote or hinder entrepreneurial thinking and action is a central issue in the scientific field of entrepreneurship. This article has shown that there is a small still but gradually ever-growing research interest in studying the effects of affect (negative or positive), intuition, and cognitive dynamics on how an entrepreneur thinks and acts, given that he is operating under conditions of stress, uncertainty and risk, in which the entrepreneur is required to think, decide and act quickly, based not only on his knowledge and experience, but also on his emotional state. He is thus led to manifest a certain behavior and adopt his own individual style (Shepherd and Cardon, 2009). In this light, much of the relevant literature argues that affect not only can be, but should be put in a context of reviewing in parallel to business knowledge, in order to be integrated into business logic.

5. Conclusions – Further research

This article is added to the literature that argues that the role of the affect in the process of discovering or creating entrepreneurial opportunities, developing innovative ideas, problem solving and decision making is important as it interacts with the entrepreneur's intuitive ability and cognitive mechanisms, but through a multivariable theoretical perspective. If a central conclusion could be drawn, it would be that affect influences the action and thinking of the entrepreneur in a variety of ways, and not in such a simple way as one would expect, since it relates to the cognitive style of the entrepreneur, the cognitive mechanisms he develops, as well as the stages of the business process. Thus, it would be rather hasty to agree that positive and negative affect influence the thinking and action of the entrepreneur necessarily positively and negatively respectively. The article proposes the necessity of co-examining the proposed variables because the negative affect does not always lead to the weakening of the intentions of the entrepreneur, and the positive affect, also, does not always lead to the reinforcement.

The influence of affect, either negative or positive, is likely to "disrupt" the strict association between the cognitive style of the entrepreneur and his thinking / action, and lead to new situations. And this happens because the positive or negative emotional state of the entrepreneur influences, more or less, the way he identifies, captures and manages the information provided to him, that is, the way he activates and utilizes his innate cognitive mechanisms. According to these findings, entrepreneurs can learn, understand, or cultivate their cognitive, intuitive, and affective characteristics before embarking on thought and action processes, always in line with their personal ambitions and expectations. Therefore, it is possible to develop support or guidance techniques in order to understand their personal characteristics and to master the essentials of the information management and processing process so as to learn to decide more effectively or to identify the right opportunities.

Based on the theoretical background introduced by this article, future research may extend to factors (as family, co-workers, etc.) that influence the emotional state of entrepreneurs, which in its turn affects positively or negatively the cognitive activation and the development of positive or negative emotions. Also of interest is the analysis of business passion and its impact on affect in the business process. At the same time, it is important to consider whether the fear or threat of failure increases or decreases the entrepreneur's willingness to act, to what extent this causes emotional stress that affects his development. Similarly, the role of the entrepreneur's optimism or pessimism can be explored, either as a result of his innate characteristics or as an acquired attribute after participating in educational programs. Future research may also focus on examining the effect of varying emotions, to avoid the one-dimensional distinction of affect between positive and negative.

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THE ROLE OF ENTREPRENEURSHIP EDUCATION IN THE FORMATION OF ENTREPRENEURIAL MINDSET: ITS IMPACT ON DECISION MAKING

ABSTRACT

Mindset is considered to be a cognitive phenomenon which reflects the cognition, the creativity, the self-efficacy, the way of thinking and acting, and underpins future strategies. Mindset is not an innate characteristic; it can be learned and is influenced by the environmental interactions, the prior knowledge and the participation in educational programs. The role of entrepreneurship education in the formation of entrepreneurial mindset is examined, and it is investigated whether this correlation contributes to the development of the entrepreneur's capability of decision making. This paper is based both on data from extended literature review and on data from an inductive qualitative research which was conducted with semi-structured interviews. This type of research is effective in order to acquire the deeper understanding of personal experiences and perspectives of the matter. The main findings from this research is that entrepreneurship education, learning and knowledge have a significant impact on the formation of entrepreneurial mindset which affects the decision making of an entrepreneur. From that aspect, it is demonstrated that mindset must be placed within the broadened framework of education, and that connection is seen as a factor for entrepreneurial decision making. The importance of that specific point of view is that entrepreneurs can develop and educate further, which can and must be used as a significant strengthening of their mindset.

Key words*: entrepreneurial mindset, entrepreneurship education, learning, knowledge, decision making.*

1. Introduction

The concept of learning, from the perspective either of education or of acquiring any knowledge and experience, lies at the core of entrepreneurship. It is approached in a variety of ways. Usually it is associated with the discovery of new opportunities, entrepreneurial preparedness, achieving the expected goals and decision making (Cope, 2005). Realizing the importance of learning, that is, acquiring new knowledge and training in entrepreneurship, has led researchers to look for its characteristics and essence which has resulted in multiple definitions and a variety of conceptual approaches. For many, business experience is a key factor determining the effectiveness of knowledge and learning (Wang and Chugh, 2014), though they do not propose mechanisms that help to prepare the entrepreneurs, potentially or actively, in order to increase their efficiency. Entrepreneurship experience is not equivalent to educational competence, as it does not guarantee the implementation of learning, since the knowledge acquired is of a different kind and content (Politis, 2005).

The multi-perspectivity of entrepreneurial learning has led to numerous educational and training programs for future or current entrepreneurs, aimed at cultivating their business mindset, skills and characteristics (Rae and Wang, 2015). The inclusion of entrepreneurial

learning and knowledge in the curricula of educational systems internationally leads to the prevailing perception that entrepreneurial mindset, thinking and action can be taught (Jones and Iredale, 2010). Therefore, in non-entrepreneurial environments where there is a lack of experience, knowledge acquisition, learning, development of the mindset and the competences of an entrepreneur are perceived as the result of entrepreneurial education through pedagogical programs. The entrepreneurial mindset, as a useful and necessary thinking and action skill (discovering opportunities, problem solving, conceiving ideas, decision making), which is gradually transforming into an economic activity, is something that can be taught, learned and developed (Sarasvathy and Venkataraman, 2011).

The cognitive approach advocates the perception that an entrepreneur is not born thus but becomes one, if he is prepared to undertake important business actions and thoughts (Shane and Venkataraman, 2000). Entrepreneurial education or entrepreneurship learning takes place within an educational system or entrepreneurship experience and involves cultivating a mindset as a way of thinking and acting aimed at overcoming any barriers and achieving the goals. Although it is widely argued that entrepreneurial mindset emerges from the curricula and requires the educational development of specific traits, it is undoubtedly related to a way of thinking and perceiving reality that is constantly and variedly developing (Elert, et al. 2015).

The majority of studies related to entrepreneurial learning, mindset and knowledge are oriented towards the interpretation of the phenomenon of experiential acquisition, processing and transformation of knowledge, according to which the change of behavior and attitude of entrepreneurs is considered certain, depending on the nature of experiences at various stages of their career (Bingham and Davis, 2012). This perception has had a significant impact on the character of entrepreneurship educational and training programs which were thus delayed to shift towards cultivating the mindset of active or future entrepreneurs as a way of thinking and acting that is learned as much through theory as through educational and experiential practice (Harry Matlay et al., 2013). Developing an entrepreneurial mindset through entrepreneurship education enables prospective entrepreneurs who lack experience to deal with critical and uncertain situations, equipped with the knowledge they receive in educational environments for developing the skills of entrepreneurial thinking, action and learning (Pittaway and Thorpe, 2012). In this context, the development of entrepreneurial mindset is part on one hand of an entrepreneurship education that prepares young people to become active in entrepreneurship, and on the other hand it is part of the lifelong learning of active entrepreneurs.

Entrepreneurship is associated with a set of competencies and a mindset that helps individuals discover opportunities, develop innovative ideas, solve problems and make decisions (Neck and Greene, 2011). Developing an entrepreneurial mindset through educational programs forms part of a continuous learning cycle and is accompanied by acting, experimenting and testing. Entrepreneurial mindset is a cognitive phenomenon that imprints the way of thinking and acting of the entrepreneur, as well as all those elements that make him special and unique. It is the ability of the entrepreneur to mobilize, feel and act under uncertain situations and conditions (Haynie et al., 2010). Developing an entrepreneurial mindset involves learning strategies that will be successful in the future, and is closely linked to decision making which, along with identifying opportunities and brainstorming, is at the core of business thinking and action. Given the significant gap in research and literature in Business Mindset, its multi-faceted investigation is necessary (Yatu et al. 2018; Nabi et al. 2017). This article takes a theoretical approach to entrepreneurial mindset, directly related to business education and learning, which may be further enriched by the consideration of emotional intelligence that may positively or negatively affect the way an entrepreneur acts and thinks.

2. Entrepreneurship Education

Entrepreneurship education helps to empower individuals' abilities, attitudes and behaviors to cultivate their perceptions of creativity and innovation in entrepreneurial thinking and action

(Fayolle, 2009). It refers to direct interventions in the life of energy or potential entrepreneurs, with a key focus on empowering them to effectively manage uncertain business events (Isaacs et al. 2007). This empowerment is achieved through learning the skills, abilities and attributes to manage existing and new knowledge gained from the educational process and life experiential experience (Cheung and Chan, 2011). Entrepreneurship education is structured and evolves based on the perception that the way an entrepreneur thinks, decides and acts can be taught, just as talent, mindset and temperament are taught (Fayolle and Toutain, 2013).

Although entrepreneurship education is undoubtedly an aspect of entrepreneurship learning which is continuous and unpredictable, the former entails precise goals, content and techniques and direct participation (Fayolle and Toutain, 2013). The results of entrepreneurship education can be both short-term and long-term. For example, through participation in entrepreneurship educational programs, active or potential entrepreneurs understand and are informed generally about the theory and practice of entrepreneurship, they cultivate behaviors, ways, skills and philosophies, are encouraged to seek opportunities, conceive ideas and make decisions, they gain expertise, develop partnerships and shape their entrepreneurial mindset (Hannon 2018).

3. Entrepreneurial Mindset

According to the theory of entrepreneurial mindset, being an entrepreneur means to be in a mental state, in which to analyze reality, situations and conditions, looking for, identifying and evaluating possibilities and opportunities, thinking, deciding and acting, in order to make innovative interventions at the social and economic level in particular, to turn ideas and decisions into acts, and to realize the goals pursued (Ferrero and Fioro, 2014). According to McGrath and MacMillan (2000), entrepreneurial mindset is the ability of the individual to perceive directly and quickly, get mobilized and act in conditions that may be uncertain. Other researchers associate it with mind habits (Duening, 2010) or the prospect of renewal, creativity, originality, and flexibility for the active or potential entrepreneur (Ireland et al., 2003). Contemporary literature and research argues that entrepreneurial mindset should not be confined to subject-specific topics focused on individual characteristics, but should be included in the ones associated to learning processes for the development of an individual's cognitive skills (Pollard and Wilson, 2013). According to Haynie et al. (2010), entrepreneurial mindset requires the activation of cognitive processes and self-efficacy at the level of business thinking and action. This activation is enhanced by external learning interventions which are on one hand targeted and refer to specific educational programs, and on the other hand non-targeted and are related to the acquisition of knowledge through experiential experience.

Given that entrepreneurship involves identifying opportunities, developing ideas, and making decisions, it is understood that it relates to one's mental characteristics, that is, his or her spirit and inspiration, particularly in regards of perceiving, identifying and assessing the risks. The entrepreneur's spirit and inspiration are constitutive elements of his mindset which is manifested as an original practice of thinking, acting and constructing a behavior that will lead to the effective management of opportunities, utilization of ideas and decision making. Establishing an entrepreneurial mindset is of crucial importance for both the active and the potential entrepreneurs, as it has a motivating role in designing, organizing and implementing new ventures, such as starting new entrepreneurships and expanding existing ones. In this context, the cultivation and reinforcement of the entrepreneurial mindset through learning / education / experiential knowledge forms a general trend that empowers at both the personal and socio-economic level (Thompson, 2004).

According to cognitive psychology, entrepreneurial mindset can be seen in two ways: as fixed, that is, as a fixed element of the mental dimension of the individual (fixed mindset), and as an evolving one, that is, as an element of one's mental dimension that can be reinforced, grown, cultivated (growth mindset). In the first case, what prevails is the perception that the

characteristics, talents and abilities of individuals are unchangeable and unalterable, as well as that learning processes (educational or experiential) do not play a significant role in the development of their skills. In this theoretical context, the skills of an individual develop due to his personal talent, whereas they remain stagnant due to his disadvantages or external factors (Dweck, 2006). When mindset is perceived as a fixed characteristic of the individual, it usually results in low self-efficacy, which contributes to the adoption of peculiar behaviors and ways of thinking and acting (Johnson, 2009).

On the contrary, the evolving mindset approach implies that one's abilities are directly related to learning and the process of acquiring knowledge. From this perspective, the individual, being in a learning environment - whether educational or a workplace - develops mentally, which also affects his mentality. Mentality is reinforced through learning processes, such as special education programs, as well as experiential situations that encourage him to utilize alternative choices and to manage alternative data. An evolving mindset contributes to the development of a high sense of self-efficacy (Johnson, 2009). The entrepreneurial mindset has undoubtedly the capacity of evolving, since the entrepreneur's nature is to seek new opportunities, develop innovative ideas and make decisions about the fluid reality that surrounds him.

The effects of the (evolving) entrepreneurial mindset through ongoing learning processes, educational or experiential, are evident in the case of active or prospective entrepreneurs who:
• seek to create or expand their operations in new areas, allowing them to target more possibilities and further enhancement of their profitability, regardless of potential threats and uncertainties;
• pursue in self-restrained way new opportunities, new ideas and bold decisions based on their sustainability and attractiveness;
• are modest and choose the best possible prospects for realizing their goals,
• follow the procedures, according to the original organization and implementation plan,
• take actions following a thorough examination and evaluation of opportunities and circumstances,
• evaluate the positive and negative elements of partners or competitors, who are 'open' to the creation of connections and partnerships (Neneh, 2012).

In the present literature and research, it has become understandable and clear that the theories of fixed mindset are not favored for implementation in the field of entrepreneurship. On the contrary, the theories of the evolving mindset have played a key role, contributing catalytically in the endeavor of entrepreneurship scholars to turn their attention to the entrepreneurial mindset as a factor that on the one hand is subject to learning processes and, on the other hand, enhances the skills of active or future entrepreneurs to think and act, that is, to identify opportunities, conceive ideas and make decisions.

4. Entrepreneurship education and entrepreneurial mindset

Mindset is a concept derived from cognitive psychology and refers to a cognitive phenomenon that does not remain unchanged over time, since it is influenced by existing or potential knowledge and environmental conditions. The entrepreneurial mindset is the ability (McGrath and MacMillan, 2000) or the pursuit (Shepherd and Patzelt, 2018) of the individual to instantly sense, get mobilized, evaluate and act in situations of certainty or uncertainty regarding one or more profit opportunities. From the above definition it is deduced that entrepreneurial mindset and thinking in terms of one's mentality entails risks, as it does not necessarily require and involve the activation of a process of control (McMullen & Kier, 2016). Mindset, as a cognitive phenomenon or habit of the mind, can be cultivated or developed through learning, and specifically education / training (Schmidt and Ford 2003).

An entrepreneurial mindset can make the entrepreneur sensitive and alert in perceiving the opportunities, daring and risking, managing uncertainty, as well as being optimistic at the level of thinking and action. The above manifestations and aspects of the mindset do not differ from the basic cognitive goals of entrepreneurship education, such as recognizing opportunities, identifying and assessing threats and risks, alertness, evaluating informational data and combining them with existing knowledge (Tang, Kacmar and Busenitz 2012; Alvarez and Barney, 2007). The achievement of the above educational goals undoubtedly contributes to the change of entrepreneurial mindset, since the latter is directly affected. Through the acquisition of specialized knowledge, the active or future entrepreneur is put into a state of alertness, a fact that influences the way he makes decisions (and not just that) (Ardichvili 2003).

The first entrepreneurial cognitive skill that is developed through educational programs is the one of perception and recognition of opportunities, which requires activating processes such as searching, managing, reviewing, evaluating, interpreting and processing information and threats. This process entails the entrepreneur's cognitive alertness so as to develop ideas directly and quickly and to make decisions directly and quickly. Every active or future entrepreneur can develop his alertness through the practice of observation, perception and recognition. This is achieved, not only through life-experiential experiences, but also through educational programs. In this light, and since alertness is an essential element of entrepreneurial mindset, it becomes clear that learning, both through education and through the acquisition of experiential knowledge, contributes to the development or transformation of the entrepreneurial mindset (Tang et al., 2012). Similarly, the entrepreneur's tendency to dare and risk is a skill that determines his mentality and mindset, and it is also learned. This tendency largely determines how the entrepreneur makes decisions, since the individuals who are most likely to accept to manage risky situations are the ones who think and act more directly and quickly, and vice versa (Hadida and Paris, 2014). The degree of risk-taking boldness is, on the one hand, variable, just like mindset is, and on the other hand depends on the educational training that the entrepreneur receives or on his experience (Bell, 2015; Sánchez, 2013).

An active or future entrepreneur can learn, either while participating in a specialized training program or in the course of his career, how to effectively manage threats in order to make decisions. The tolerance of uncertainties and unforeseen situations, as well as the chilling approach to risks, are important manifestations of his business mindset. By acquiring the appropriate knowledge, the entrepreneur can learn not to be frustrated or anxious when confronted with problematic, ambiguous or uncharted situations. For example, the intensive training of the entrepreneur in educational and / or real situations, by utilizing action-reaction methods, helps him to familiarize with them (Lackéus, 2014).

Boldness and ease of taking risks usually reveal the optimistic character of a person who tends to believe that he or she will succeed against unpleasant, uncertain, or dangerous situations (Crane et al., 2012). In this light, optimism is a characteristic of the entrepreneur's mindset, which alerts him to decide, act and set high goals. Many scholars link entrepreneurs' optimism with their positive image of themselves, as well as their high sense of self-efficacy. The latter is cultivated and developed through learning, experiential or educational, so optimism can be taught in a similar way (Grichnik et al., 2010). Given that the above characteristics of business mindset are at the same time essential aspects of business learning, it is concluded that business mindset is developed and conceived through education.

5. Entrepreneurship educational practice and entrepreneurial mindset

For the effectiveness of an educational process aimed at cultivating and developing entrepreneurial mindset, it is necessary to create a learning climate that relates to experiential experience and action. An active or prospective entrepreneur who chooses either at the starting point of his professional life or at some other stage to receive specialized training in how to

identify opportunities, conceive ideas and, in particular, make decisions, it is advisable to engage in a dynamic, energetic and innovative educational program (Mwasalwiba, 2010). Entrepreneurial mindset remains stagnant when the educational process is based on passive learning, that is, on performing tasks that do not provide feedback, active and engaged participation of the training active or future entrepreneurs, a precise timetable and predetermined target setting. The latter, if not oriented towards the activation of the necessary individual characteristics at the level of knowledge and cognitive abilities, behavior and affect, inspiration, spirit and intuition, it cannot contribute to the development of the entrepreneurship mindset. Entrepreneurship educational programs that manage entrepreneurship knowledge exclusively on a theoretical level, not aiming to simulate the experiential learning with the educational practice, are more likely to motivate the trainees to look for a job position or remain in a state of safe stagnation rather than to create jobs or acquire a mindset of renewal and progressive evolvement (Arasti et al., 2012).

In an innovative and dynamic learning environment, knowledge acquisition comes as a result of energetic actions that focus on self-discovery, self-awareness and self-efficacy. Active or prospective entrepreneurs-trainees discover and understand their existing knowledge, assess their abilities, evaluate their attitudes, and acquire a mindset that will help them to develop personally and professionally. Entrepreneurship education requires the design, organization and implementation of experiential forms of learning, which are related to creative problem-solving through the appropriate decision-making. Through innovative simulation activities and collaboration teams, through the use of innovative and alternative techniques and technologies for self-development (Arasti et al., 2012), the interest of the trainees / students is stimulated (Jones & Iredale, 2010), the quality of knowledge they acquire is very high, and they acquire thus an entrepreneurial mindset. The dynamic entrepreneurship educational environments that contribute to the development of entrepreneurial mindset provide for the utilization of programs, tools and practices that promote experiential learning and knowledge. Some of these practices are the use of computer systems and devices, conducting surveys in the actual field of existing entrepreneurships, organizing business plans, implementing bold and innovative ventures by the trainees, participating in competitions or real business events, participating in simulation situations, collaborating with existing entrepreneurs who are distinguished for their innovative action, etc. (Wheadon and Duval-Couetil, 2014).

6. Methodology

6.1. Methodology analysis

For the full understanding of the characteristics of the sample, it was chosen to conduct data collection qualitative research, through semi-structured interviews with open-ended questions, in order to reveal the subjective thoughts and feelings of the entrepreneur (Bryman and Bell, 2011). This method is considered reliable in terms of deep understanding of people's emotional and cognitive involvement in the field of social studies, with an emphasis on subjectivity. In-depth interviews allow the researcher to identify and highlight different important aspects of the phenomena under consideration, allowing the interviewed entrepreneurs to express themselves based on their own reality, as they construct and perceive it themselves (Stake, 1995). This method provides information on how the surveyed entrepreneurs understand the basic concepts of questioning of the research (Mindset, entrepreneurship education), how they relate to them and to what extent they connect them with their ability to make decisions, without being influenced by quantitative data in any way (Fontana and Frey, 2000). The interview protocol with the open-ended questions was designed based on the purpose of the research, the literature review and the context of the study. Open-ended questions allowed interviewees to express themselves freely and to tell their own stories. The semi-structured interview is the

appropriate method of collecting information about events, processes and interactions that are complex (Patton, 1990).

The primary data for the survey come from the answers obtained from the semi-structured interviews with 9 entrepreneurs. To ensure the validity of the answers, open-ended questions were used, without any form of guidance for the interviewees in any way. During the interviews, they were able to speak freely and without interruption, as the main goal was to record the most honest, non-standard and detailed answers (Bryan and Bell, 2011). In addition, the research incorporated the escalation technique, so that respondents would have the possibility to process their previous answers and thus reveal more about their emotional and cognitive characteristics. Finally, it is important to note that the selected research method is restrictive, as it does not allow very large margins for generalization of the findings and does not involve quantitative-empirical research data (measurable data) (Creswell, 2011). Therefore, the conclusions are drawn with special care.

6.2. Sample

The research sample consisted of 9 entrepreneurs who had participated, at least once in their lives, in a program of entrepreneurship training. The selection of the interviewees was based entirely on their professional status and the existence of some kind of educational training during their entrepreneurial venture, while in no case was it determined by factors such as gender, age, type of business, years of service, current position in the company, or educational level. Throughout the research process, the personal data or information of the private life of the entrepreneurs were neither disclosed nor made public, their anonymity was observed and the current laws on personal data protection and privacy were fully implemented.

6.3. Structure of the interview

The interview protocol is based on the approaches presented in the theoretical part of the present research study in terms of entrepreneurial mindset and entrepreneurship education, taking into account the important variables of learning and knowledge again in the field of entrepreneurship. These theoretical approaches essentially constitute the guidelines of the interview, which gradually lead to the correlation and co-examination of the above key concepts with the decision-making process in entrepreneurship reality. In fact, the interview is divided into three parts: the first checks the knowledge and perceptions of the interviewee regarding the basic concepts of the theoretical background of the research, the second checks the levels of their personal involvement in issues related to these notions and the third induces them to co-examine their previous responses with their ability to make decisions.

6.4. Data analysis

The qualitative data analysis method with an inductive approach by Gioia et al. (2013) was used for the data analysis. Based on this, and after the transcripts of the interviews, first-order conceptual-thematic codes were developed first and then second-order conceptual-thematic codes were developed, which led to the derivation of the general findings in the third-order aggregate dimensions. This inductive analytical process was completed after the parallel examination of the literature and data of each interview, first separately and then as a whole. The data of the interview do not concern only the verbal suggestions expressed by each respondent, but also their verbal behavior and their emotional mood / state. Examining the conceptual codes of the first level involves, among other things, identifying the similarities and differences between the perceptions and the opinions of the respondents, while that of the conceptual-themes of the second level presupposes the use of the literature. At the end of the

analysis process, all the findings were organized into more abstract topics that led to deriving the overall findings.

7. Results

Before quoting the results of the analysis of the interviews, the coding of the available information data is presented through a diagram, as these data result from the profile (demographic characteristics) and the answers of the interviewees, based on the methodology Gioia et al. (2013). This coding is of inductive type, it starts off from the very special-objective information, it proceeds to the less special-objective and ends up in the abstract-subjective, which essentially constitute the central findings of the research process.

Figure 1: Coding results: 1st-order codes, 2nd-order codes, Aggregate dimensions
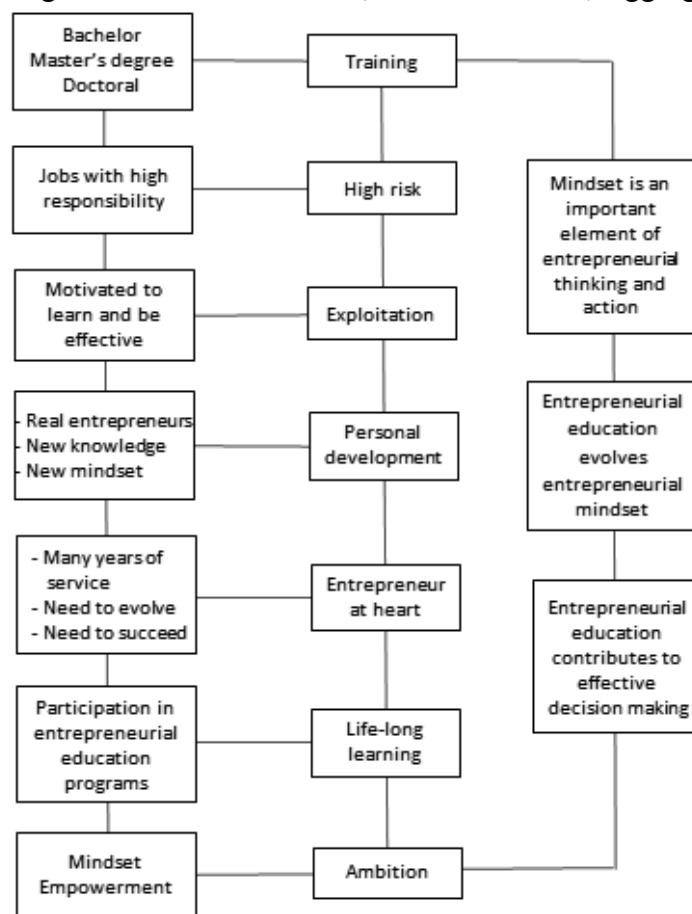
Source: Gioia et al., 2013

Nine out of 10 interviewees agree that the entrepreneurial mindset is a concept distinct from the general one, but their answers differ, which demonstrates their differing views on the issue, as well as their lack of theoretical and conceptual background. Entrepreneurial mindset for them is "a set of philosophical views", "the cognizing in an entrepreneurship", "the professional and analytical way of examining business issues, taking into account the opportunities and risks in order to ensure the long-term sustainability", "the fixed set of beliefs, concepts, consequences and means for dealing with and managing business situations, which functions as a map with routes, actions and provisions for the exploitation of positive and negative situations", "that which summarizes what an entrepreneur should do after examining the factors and risks in order for his business to operate successfully and stand out in the arena of competition", "the way of thinking in entrepreneurship", "a methodology with dimensions of economy and research", "the adoption of new ways of thinking and critical thinking that inspires creativity, innovation,

adaptability, flexibility and communication skills". One of the interviewees does not define the concept of mindset, neither in general, nor in particular, and refers to a multitude of factors that affect and shape it (ethnicity, race, education, etc.). There is only one participant who disagrees with the distinction between general and entrepreneurial mindset and she is the one who defines mindset as "a set of beliefs, prejudices and fears that affect the behavior".

A similar congruence between the participants in the research is identified in the question concerning the cognitive role of entrepreneurship education, as well as the benefits it brings to entrepreneurial action and thinking. Everyone, without exception, agrees with its beneficial effect, based on their personal experience, that is, by their participation in one or more educational programs. However one respondent points out the importance of lifelong learning, two others underline the importance of empirical knowledge, and one evaluates it as a dialectical and interactive process. Entrepreneurship education serves in making decisions, solving problems, discovering solutions, developing ideas and strategies. It also serves to use and transform existing knowledge, seek opportunities, adapt to new developments, adopt new means, techniques and practices. It contributes in the development of collaborations, in the increase of the efficiency at individual and collective level, in the better utilization of the business experiences and exploitation of the economic and legal data, regardless of the economic size of the business. As for the third question which serves more as an assertive control, all participants, except in one case, seem to know that there are multiple entrepreneurship education programs available, at multiple levels and of a diverse nature around the world (MBA, Ph.D., e-learning seminars, postgraduate seminars, governance programs, distance learning programs, executive education programs, interdepartmental programs, programs developing negotiations skills). Although their answers vary in extent or accuracy, which is more related to each person's willingness to respond in detail, they compose a satisfactory answer as to their familiarization with the practical dimension of entrepreneurship education.

As happened with the question concerning the semantic and conceptual clarification of the term mindset, so with the question concerning the distinction between learning and education, many different and interesting findings emerge: all participants without exception recognize that the two terms are not related, but are fully distinct. However, many seem to be unaware of their essential differences and are more likely to misinterpret the theory. In particular, three interviewees identify learning as a lifelong process of acquiring knowledge, "beginning with birth and ending with death", one recognizes in it the element of temporariness, one associates it with the acquisition of new skills and the exploitation of new knowledge, one defines it as a separate element of education, another recognizes it as a factor that leads to education, whilst another one defines it as a combination of education and lifelong experience. On the other hand, they recognize education as a "theoretical foundation", "a different learning method", "a structured and formal process with a beginning, middle and end, which takes place in specific periods of human life", "guidance and training through study and interaction with third parties", "process of restoring, transforming and transmitting knowledge and skills", "a lifelong process related to experiential experience", "practice taking place in classrooms", "predetermined knowledge base". One interviewee focused exclusively on the role of experience, without further identifying its relevance or connection to learning or education. In one case, a participant states that she cannot recognize differences between education and learning. Of the 10 interviewees, 7 answered satisfactorily about whether they believe their participation in an entrepreneurship education program changed their mentality on a personal and business level. One answered generally and vaguely about what education should bring to the entrepreneur's thinking and action (maturity and constructive interaction skills), one other argued that the educational process helped him see the impasse and transfer his company, and another one did not provide any at all useful information that could help in this research. The six respondents

essentially argued that the training program they attended "influenced the way they interact with others on a professional and personal level", "influenced their professional behavior", "offered a better understanding of reality", "made them willing and daring to adopt new practices and behaviors", "to look for more competitive ideas", "to be optimistic and confident about themselves", "to perceive risks", "to become better speakers, listeners and collaborators", "to be more receptive to new ideas and strategies".

Regarding the activation of cognitive and emotional skills during the entrepreneurial decision-making process, there is a difference of opinion and positions between the interviewees. There are those who argue that a good balance between the two situations is required to achieve the best possible results (2 respondents), those who argue that cognition should not be influenced by the affect and that emotions should be controlled and marginalized. (3 respondents), one interviewee states that he trusts only his cognition, while one states that knowledge and experience lead to better utilization of affect. Two interviewees report that both cognition and affect played a dominant role in their professional lives with defining the results, and one makes no reference at all to affect. At the same time, 6 out of 10 participants respond about the role of knowledge and experience in the decision-making process, with one stating that they "mitigate impulses and lead to wiser responses", the second stating that "their contribution is estimated to be below 20%", the third that "they can operate disorientingly without the presence of knowledge", the fourth stating that "experience promotes knowledge and reduces hesitation and doubt", the fifth that "they can be guides" and the sixth that "it gives more confidence and security".

When asked if the entrepreneurial mindset plays a role when they are called upon to make decisions, 2 out of 10 interviewees answer laconically (almost in just one word) and affirmatively. The remaining eight also agree and give affirmative answers, but develop reasoning in different directions, which raises doubts as to whether they understand the concept of entrepreneurial mindset accurately and satisfactorily. One interviewee associates the mindset with aim-setting, marketing, profits and financial data, a second one talks about the company's overall mindset in a situation of interaction, one other links the mindset to the boldness of developing new ideas, adopting new practices and means, as well as dealing with new fields, another identifies mindset with the "gut instinct", a fifth one speaks of "will, of the need for independence and dynamic state on economic issues", and finally the sixth one mentions as an example of mindset the perception that stopping a loss constitutes a profit. Only four out of the ten interviewees provide personal examples. As expected, when asked how the interviewees themselves evaluate the impact of the entrepreneurship education they received on their entrepreneurial mindset, their answers converge perfectly, although each one of them identifies it in a different way. In particular, everyone agrees that it has played an extremely positive role in their subsequent decisions that were crucial for themselves and for their company. The participants said the entrepreneurial mindset "was a guide to selling the company", "worked in the direction of exploring new fields of services provision", "contributed to the longevity and expandability of the company", "strengthened the cooperation between executives of the company", "introduced new perspectives through innovative practices, methods and means at international level", "facilitated the transmission of visions and ideas", "modernized existing methodologies", "strengthened the ethics of cooperation and active involvement of the stakeholders", "reduced the risks and maximized the benefits", "paved the way for the cultivation of a climate of trust".

Equally positive are the assessments of the respondents about their ability to make decisions after participating in an entrepreneurship education program, which has had a decisive effect on changing and strengthening their entrepreneurial mindset. Seven out of the ten participants in the research described the improvement in this skill as "strategic and cynical thinking", "risk taking and b-plan design", "enhancing the weight of opinion", "cultivating a sense of security and confidence", "correct risk management for financial benefits", "guidance", "knowledge upgrading and increasing options". The other two responded with one-word answers and one

did not answer at all, a fact that serves very little and not at all the research, since they have a positive sign.

8. Discussion

The present research study investigated the entrepreneurial mindset as an evolving cognitive and learning phenomenon, confirming in practice that certain aspects of an individual's mental characteristics can be developed through education and experiential experience (Kruger, 2007). Its findings show that entrepreneurs of all ages, educational backgrounds and years of prior experience, who have participated one or more in their lifetime in an entrepreneurship education program, agree that the entrepreneurial mindset, as a special concept, differs from its general concept, and relates to a cognitive phenomenon (Haynie et al., 2010). From the answers of the sample, although it is does not turn out clearly that entrepreneurs know exactly the definition of entrepreneurial mindset, the answers they give reveal that they perceive it as a mental state in which they can analyze reality, evaluate opportunities, think, decide and act (Ferrero & Fioro, 2014), to be creative, to innovate, to be flexible (Ireland et al., 2003), to develop connections and collaborations (Neneh, 2012) and to be effective in the field where they have decided to have their activity (Haynie et al., 2010). For this reason, when asked to define it, they essentially referred to the basic cognitive characteristics and cognitive structures of individuals / entrepreneurs, as well as to their behaviors and emotional state when called upon to think, act, and decide (Naumann, 2017).

The general impression that one forms by reading the answers of the interviewees and observing their body language during the interview process, is that they believe in the dynamics of education, which they semantically separate from learning. Although they focus to a large extent on the importance of experience in their professional life as a key factor in gaining new knowledge (Wang & Chugh, 2014), most associate it with education, which they value as superior to "general and indefinite" learning. Based on this, on the one hand one realizes that the majority of the sample ignores the real meaning and essence of learning, and on the other hand they almost unequivocally accept the notion that entrepreneurial thinking, action and mindset are learned, conquered and developed through formal education (Sarasvathy & Venkataraman, 2011). Despite the fact that during the interview process, most of the participants showed a serious inability to cite personal examples or testimonies that would demonstrate practically what they argued about the learning dimension of entrepreneurship, their insistence on the vaguely beneficial role of educational programs in their life was always present (Mwasalwiba, 2010).

Another element that comes out of this research is that the interviewed entrepreneurs believe in the effectiveness of education, regardless of whether it concerns passive-type programs that are not based on the principles of experiential knowledge acquisition, either through actual experience or through simulations in educational settings (Wheadon & Duval-Couetil, 2014). Though they are aware of the availability of multiple training programs for future or active entrepreneurs around the world (Rae & Wang, 2015), they do not seem to emphasize the need to connect experiential learning and knowledge with typical educational programs (Lackéus, 2014; Pittaway & Thorpe, 2012), which rather "reveals" that their personal educational experience was also based on a strictly structured and theoretically oriented curriculum as defined by the curricula of educational institutions (Arranz et al., 2017). Regardless of that, the participants in the research appear to be unequivocally confident that entrepreneurial mindset can contribute to the improvement of the entrepreneur's thinking and action skills, in case it is the result of an integrated learning process that will combine innovative educational activities, experiential knowledge, cognitive, mental & emotional support (Fayolle & Gailly, 2015). Given that the research sample argues that the entrepreneurial mindset can be learned and that the

entrepreneur's skills are taught, developed and transformed (Johnson, 2009), one would expect that they would have a broader understanding of the role of learning, experience, knowledge and affect in this cognitive process (Schmidt & Ford 2003). In contrast, the respondents appear to be more reserved about the impact of information non-strictly cognitive or originating from educational / scientific information theory, which they fear may negatively affect them, disorient them and mislead them. However, their perception of the importance of experience is almost always positive, either in a restrained or categorical way (Tang et al., 2012).

In the same way they evaluate positively the role of entrepreneurship education in shaping and developing the entrepreneurial mindset, they also accordingly support the positive role of the latter in the decision-making process. Although they are unable to substantiate their arguments, by quoting personal experiences or by invoking the same characteristics with which they earlier described the mindset, they appear very confident in their affirmative answers. This fact, while not an unshakable research evidence, demonstrates in fact the prevailing trend among "trained" entrepreneurs to link their "effective" decisions and "effective" mentality to the formal knowledge they acquire by participating in every kind of educational entrepreneurship programs (Cope, 2005). In this theoretical framework formed through the interviews, where "entrepreneurship education contributes to the development of the entrepreneurial mindset, which in its turn positively affects the ability of entrepreneurs to make decisions", the interviewees seem to confirm the bibliographic approaches that put at the core of entrepreneurial thinking and action the cultivation of the entrepreneurial mindset (Yatu et al. 2018; Nabi et al. 2017). Almost all participants tried to determine exactly the role that their entrepreneurial mindset played in the way they make decisions, referring to specific situations that they themselves consider to be the positive consequences of their decisions. In the same positively assessed framework, the vast majority admitted that they had identified specific changes in their entrepreneurial thinking, action, and mindset before and after attending entrepreneurship education programs (Thompson, 2004), providing thus an empirical background that confirms even to a lesser extent the central theoretical hypothesis of the present research.

9. Conclusions – Further research

The present article is added to the literature which argues that entrepreneurship education affects and influences entrepreneurial mindset, which in its turn determines the efficiency of the entrepreneur at all stages of his career. Overall, through a review of related studies, and the conduct of an inductive qualitative research, which was conducted with semi-structured interviews, the relevance of entrepreneurship education to entrepreneurial mindset was found, as well as the association of experiential learning with the development of the entrepreneurial mindset and of passive education with its stagnation. However, in this theoretical context, it is understood that it is not sufficient for an active or future entrepreneur to participate in entrepreneurship educational programs conducted on the basis of the rigorous pedagogical requirements of the curricula of an institution or training center, the participants in the research do not point this out. For them, on the contrary, it is considered appropriate and useful for their personal and professional development to engage in real-world learning processes or in those simulating them, to acquire knowledge that will enhance their creativity, self-confidence and self-efficacy in order to manage uncertainty, develop innovative problem-solving actions, make quick and apt decisions. Either way, the theoretical and empirical aspect of this article demonstrates that mindset must be placed within the broadened framework of education, and that connection must be seen as a factor for entrepreneurial decision making. The importance of that specific point of view is that entrepreneurs can develop and educate further, which can and must be used as a significant strengthening of their mindset.

Future research may focus on exploring, recording and interpreting the differentiations found in the development of entrepreneurial mindset, depending on the content of the educational programs, to which extent these are oriented towards an innovative or passive learning and knowledge acquisition, as well as what practices are adopted during the teaching process. At the same time, it will be very useful to draw conclusions from a study that would compare the entrepreneurial mindset of entrepreneurs belonging to different categories, such as those who have participated in passive type training programs at the beginning of their entrepreneurship careers, those who have participated in innovative educational programs, those that have invested equally in acquired experiential and alternative educational knowledge, those that rely solely on their professional experience, etc. Future research should also examine whether, under certain conditions, entrepreneurship education / learning changes and influences not only the entrepreneurial mindset but also the objective environment. That is, it should be considered whether entrepreneurship learning / education can be considered as an opportunity or threat, whether it creates opportunities or raises constraints, and whether this affects the predetermined goals or not, not only at the level of entrepreneurial ventures, but also at the level of personal development. With regard to the latter, it is important to investigate whether entrepreneurship education/learning has a positive impact, not only on the cultivation of entrepreneurial mindset, but on the mindset in general, as well as on the development of an individual on a personal and social level.

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3. DEVELOPMENT

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CAUSALITY OF THE DETERMINANTS OF GDP GROWTH RATE TRENDS AND THE LABOUR MARKET SITUATION IN THE REPUBLIC OF CROATIA

ABSTRACT

The Republic of Croatia belongs to a group of transition countries with specificities arising from the separation from the former community, warfare, international isolation, and transition of the political and economic system. All these events affected economy growth, i.e. its GDP measurement. The transition to a market economy has led to an expected drop in employment which, consequently, has not been eliminated by the expected activities of private entrepreneurship. On the other hand, there was stagnation mainly due to the inertness of government administration, i.e. the lack of reforms that would accelerate the transition to a market economy. From a realistic point of view, employment is an important component of every society; it ensures social peace, citizen satisfaction, prevents social tensions and unrest, and influences GDP growth rate. It is desirable for each country to have as much employment as possible and as little unemployment as possible. The basic precondition of social and economic development of the Republic of Croatia is its population, constituting a demographic framework for social division of labour.
This paper analyses the causality of GDP determinants and employment rate as factors influencing further development of the economy in the Republic of Croatia. The initial basis of the paper is the following hypothesis: there is a relatively strong link between economic growth and labour market situation. These aggregates will be observed through their dynamics of time and structure movements, and comparative analysis and inferential statistics will prove or refute correlations between individual variables. In terms of proving that there is a connection, the following coefficients such as Pearson coefficient (nominal comparison of variables), Kendall's τ and Sperman ρ (ordinal comparison of variables) are analysed for the calculation using statistical software IBM SPSS Statistics 24.

Key words: *GDP, economic growth, labour market, Republic of Croatia.*

1. Labour market in the Republic of Croatia

Employment is an important component of every society; it ensures social peace, citizen satisfaction, prevents social tensions and unrest, and influences GDP growth rates. It is desirable for each country to have as much employment as possible and as little unemployment as possible. The labour market does not function as other markets. The subject of sales in the labour market are not workers (workers are not sold), but rather workers' mental and physical

capacity to produce products and services. Employers use the useful value of the labour force, and workers receive a salary as an equivalent value. The factors influencing the functioning of the labour market are numerous, but the following certainly have the greatest impact on the relations between supply and demand (Samuelson, P. & Nordhaus, W. D., 2011): employment and unemployment, labour costs, costs of living, legal protection of employment and union bargaining strength. The labour market shares features with other markets such as competition or conflict, but the labour market is characterised by a battle over competing tripartite interests – of the government, employers, and workers – for salaries, labour intensity, occupational safety conditions, severance pay, working hours length, notice period length, redundancy care, etc. Government interests are in legal proportion with the strength of command, i.e. the need to regulate the labour market. The labour market has two distinct characteristics compared to other markets (Pupavac, D. & Zelenika, R. , 2004).

Therefore, there is almost never a "cleansing" in the labour market or a lack of surplus supply (when there is no unemployment) and in the labour market, a reduction in wages can increase unemployment instead of reducing it. Basic factors influencing the shaping of supply-demand relationships in the labour market are (Pašalić, 1994): labour supply factors – population abundance and its natural increase, age structure of the population, gender structure of the population, occupational structure of the population, population migration, labour demand factors – marginal productivity of labour inputs, quantity and quality of required labour, quantity and quality of required inputs in production, possibilities of substitution of labour with other production inputs, volume and structure of needs for professional and technical occupations in the production of goods and services.

After changing the economic system, the Central and Eastern European countries suffered from a decrease in professional activity and increases in unemployment, as well as deterioration of the situation of groups discriminated against on the labour market. To reduce the disequilibrium in the labour market, in most of the countries in the region, it was decided to increase labour market flexibility, adopting a Western European model of labour market functioning (Zieliński, M., 2018).

1.1. Labour market legislation of the Republic of Croatia

In the Republic of Croatia, a person aged 15 becomes part of the working age population. Working age population is divided into active and inactive population. Active population or labour force are employed and unemployed persons classified according to economic activity. Inactive population are persons up to the age of 15 and persons in working age population who are neither employed nor unemployed. According to the Labour Force Survey conducted by the Croatian Bureau of Statistics since 1995, persons who are unemployed are:
- The ones who during the reference week did not work anywhere for money or payment in kind,
- The ones who were actively seeking employment in the last four weeks before the survey,
- The ones who could start working in the offered workplace in the following two weeks.

Among the unemployed are also persons who had found a job and would soon start working. Labour legislation has many and very diverse instruments of employment protection that are difficult to compare. OEDC's EPL (Employment Protection Legislation) is a sort of a standardised measure of common and comparable indicators of legal employment protection; an index which combines the rules on permanent employment, temporary employment and collective redundancies into a single assessment. Furthermore, employment and unemployment are social categories resulting from a lack of matching supply and demand in the labour market.

Employment must be economically justified, it must create more than what was invested in it. In order for this to happen, employees must be educated, capable, productive, motivated, and do the job they are qualified for and where they can give the most. By contrast, the unemployed do not create; they spend. That is why employees are more burdened by temporary benefits than if there were no unemployment. For this reason, and not just moral-ethical reasons, employees have to take care of the unemployed in such a way that they create the conditions for their employment in order to establish full, i.e. general employment. This means creating new fields of work, new workplaces, and new jobs. Unemployment can be classified according to different viewpoints. The traditional division of types of unemployment by their causes usually distinguishes between normal, structural, and cyclical unemployment (Samuelson, P. & Nordhaus, W. D., 2011). Normal unemployment includes: a) seasonal unemployment resulting from strong variations in the economic process in certain activities conditioned by climatic, traditional or institutional conditions, and b) frictional unemployment resulting from the continuous movement of people between areas and employment or through different stages of the life cycle, i.e. if shifts from one job to another require a certain period outside work (e.g. time of search) due to imperfection of information dissemination and mobility. Structural unemployment means a discrepancy between supply and demand for workers in terms of occupation, qualifications or a regional agenda. Discrepancies can arise due to growing demand for one type of work, while demand for another type of work decreases in conditions where labour supply cannot be adjusted quickly (Pupavac, D. & Zelenika, R. , 2004). Cyclical unemployment is a consequence of a general lack of demand in the commodity market and implicitly in the labour market. It occurs when the overall demand for labour is low. When consumption and production decrease, unemployment increases. Different types of unemployment are not independent; they intertwine. For example, in a high conjuncture period, the level of seasonal and structural unemployment is decreasing; in a period of recession, companies increase qualification requirements for the remaining level of employment, until then frictional problems evolve into structural ones; the difference between productivity growth rate and production can be a consequence of technological progress, but also of insufficient demand that will cause unemployment, which needs to be classified differently, etc. Due to all the difficulties associated with this problem, it is often stated that quantitative individual identification of different types of unemployment is not possible at all. The following figure shows the relationship between the unemployed and the total population.

Figure 1: Distribution of population according to the possibility of entering the labour market
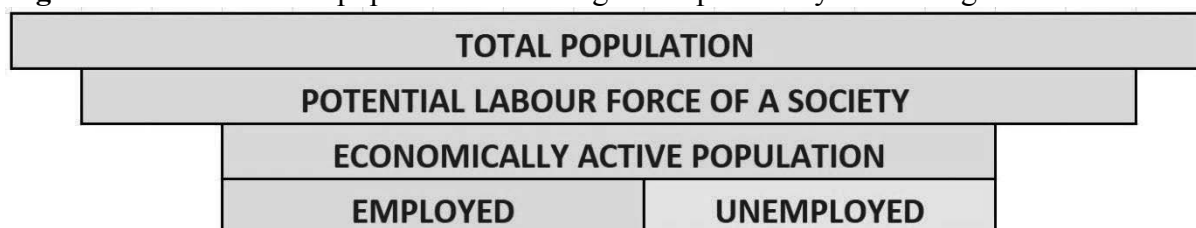
Source: According to Mrnjavac, 2004, p. 132

The Figure shows the share of economically active population or labour force in relation to the total population and its division into employed and unemployed persons.

1.2. Overview of the working contingent in the Republic of Croatia

The basic precondition of social and economic development of the Republic of Croatia is its population, constituting a demographic framework for social division of labour. As an agent of economic development, the population is labour force that initiates and directs all economic

activities. The economic structure implies the distribution of active population (labour force) by sectors of activity and is a reliable indicator of the socio-economic development of an area. Economically active population consists of two groups: 1) all persons employed with full or part-time working hours, all persons engaged in an occupation, but not employed, and unemployed in a certain period, and 2) persons who have an independent source of income (pension, annuity) and economically dependent persons (dependants). The labour contingent or labour force consists of men aged 15-65 and women aged 15-60. The following table presents the movement of the working contingent of the Republic of Croatia from 2011 to 2017.

Table 1: Working contingent of the Republic of Croatia (2011-2017)

	2011	2012	2013	2014	2015	2016	2017
Active population	1.716.571	1.719.440	1.709.410	1.670.336	1.676.908	1.632.279	1.599.465
Employees	1.411.238	1.395.116	1.364.298	1.342.149	1.391.002	1.390.419	1.405.498
- Employees in legal entities	1.159.657	1.153.497	1.132.246	1.120.507	1.175.656	1.177.004	1.193.687
- Employees in crafts	220.637	212.851	206.658	198.911	194.142	193.524	192.233
- Insured farmers	30.944	28.768	25.394	22.731	21.204	19.891	19.578
Unemployed	305.333	324.324	345.112	328.187	285.906	241.860	193.967
Registered unemployment rate	17,8	18,9	20,2	19,6	17	14,8	12,1

Source: Croatian Employment Service, CES. 2018. Godišnjak 2017. Zagreb: Croatian Employment Service, accessed: 01/02/2020. http://www.hzz.hr/default.aspx?id=10055

Working age population as a demographic framework is a source of existence for the entire population. Declining natural increase and selective labour migration affect changes in the numerical relationship between active and dependent population. The implications of demographic ageing of the population are multi-layered and long-term. Ageing of the population over a longer period affects not only the ageing of the fertile contingent, but also its reproductive power and decline in the birth rate, thus accelerating demographic ageing. According to the attributes, the working contingent of the Republic of Croatia is presented in the following charts.

Croatia suffers from comparably low labor force participation rates and high unemployment: In 2014, only two‐thirds of the population of working age (15‐64 years) was officially active in the labor market, i.e. either employed, or unemployed and searching for a job (see Figure 5.1.(a)). Croatia thus experiences one of the lowest participation rates in the whole European Union (EU‐28 average: 72.3%). Labor force participation rates are particularly low among the young (15 to 24 years of age), the elderly (50 to 64) and women (Falck, O., & Schönherr, S.,2016).

Chart 1: Dynamics of the working contingent trends of the Republic of Croatia (2011-2017 – quarterly)

Chart 1 shows the ratio between working age population (blue columns) and active labour force (orange columns), while the red line shows the number of employees in the observed period. The following chart presents the relationship between the unemployed and inactive in the same period.

Chart 2: Dynamics of inactive and unemployed population trends in the Republic of Croatia (2011-2017 – quarterly)
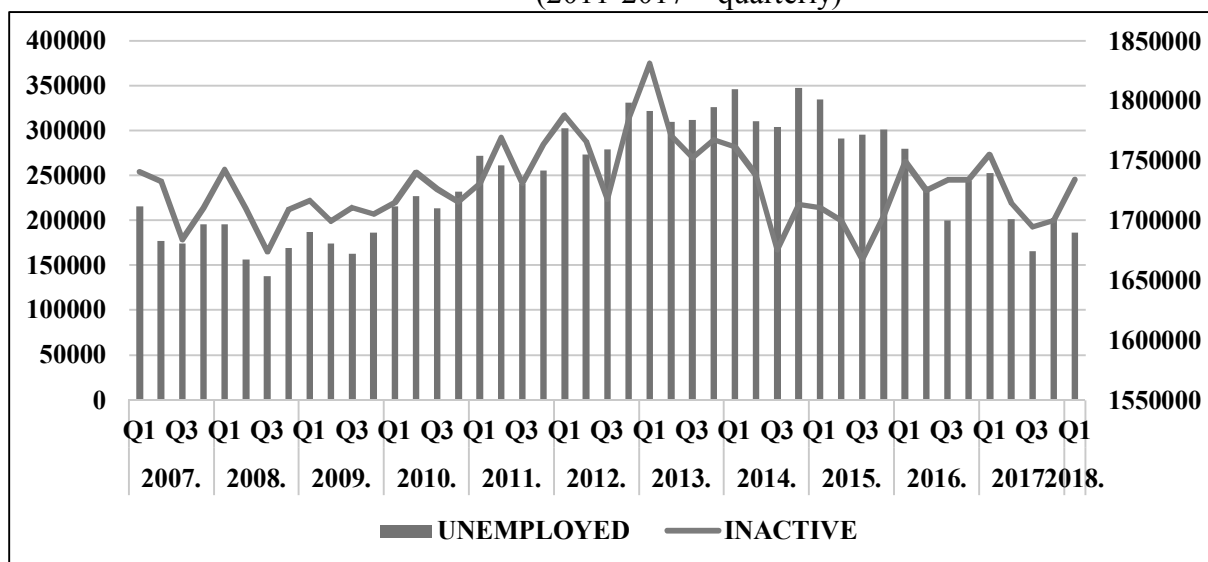
Chart 2 shows the trends in the number of unemployed (left axis of the chart) and the trends in the number of inactive population (line – right axis of the chart). The following tables present the structure of unemployed persons by gender, age, and level of education.

Table 2: Structure of unemployed persons in the Republic of Croatia by gender

UNEMPLOYED	2011	2012	2013	2014	2015	2016	2017
MEN	141.408	152.079	163.070	153.485	130.698	107.947	83.144
WOMEN	163.925	172.245	182.042	174.702	155.208	133.913	110.823
TOTAL	305.333	324.324	345.112	328.187	285.906	241.860	193.967

Source: Croatian Employment Service, CEZ. 2018. Godišnjak 2017. Zagreb: Croatian Employment
Service, accessed:01/02/2020. http://www.hzz.hr/default.aspx?id=10055

When observing the structure of the unemployed in terms of gender, it is noticeable that a larger number of women was registered throughout the observed period from 2011 to 2017. The relationship between unemployed men and women is 43:57.

Table 3: Structure of unemployed persons in the Republic of Croatia by age

UNEMPLOYED	2011	2012	2013	2014	2015	2016	2017
From 15 to 19	15.617	17.186	18.140	16.683	14.814	11.849	8.401
From 20 to 24	41.078	44.877	47.619	42.593	34.910	28.009	21.173
From 25 to 29	41.929	45.445	47.441	43.207	35.001	28.683	22.384
From 30 to 34	34.308	37.031	39.361	36.513	36.615	24.757	19.290
From 35 to 39	29.936	32.146	35.013	33.440	28.940	24.071	19.144
From 40 to 44	29.624	31.009	32.949	31.106	27.409	23.351	18.754
From 45 to 49	31.582	33.204	35.584	33.900	29.664	24.642	19.750
From 50 to 54	37.430	36.553	37.653	36.380	32.541	28.514	23.436
55 to 59	33.154	35.057	37.708	39.304	36.334	32.184	26.731
60 and more	10.675	11.816	13.644	15.061	15.676	15.800	14.904
TOTAL	305.333	324.324	345.112	328.187	291.904	241.860	193.967

Source: Croatian Employment Service, CEZ. 2018. Godišnjak 2017. Zagreb: Croatian Employment
Service, accessed:01/02/2020. http://www.hzz.hr/default.aspx?id=10055

In terms of age groups, two dominant groups are noticeable; young people up to 30 years of age whose trend was decreasing, especially in 2016 and 2017, primarily due to migration, and another group consisting of the unemployed of over 50 years of age, who are difficult to employ.

Table 4: Structure of unemployed persons according to school qualifications

UNEMPLOYED	2011	2012	2013	2014	2015	2016	2017
No school and uncompleted primary school	17.443	18.136	18.357	17.688	15.664	14.155	11.997
Primary school	68.575	68.829	71.326	67.740	59.222	50.070	39.775
Secondary school for vocational qualification and higher vocational qualification	104.924	110.986	117.244	107.823	91.985	75.092	58.474
Secondary school in the duration of 4 years and more	84.394	90.646	98.522	94.443	82.464	69.055	54.744
Higher education	12.664	15.271	17.549	17.695	15.930	14.508	12.415
University degree, Master, Doctor	17.333	20.456	22.114	22.798	20.641	18.980	16.562
TOTAL	305.333	324.324	345.112	328.187	285.906	241.860	193.967

Source: Croatian Employment Service, CEZ. 2018. Godišnjak 2017. Zagreb: Croatian Employment
Service, accessed:01/02/2020. http://www.hzz.hr/default.aspx?id=10055

Table 4 shows the link between the number of unemployed and their qualifications, conditioned by labour market demand.

1.3. Analysis of the employment rate in the Republic of Croatia

Registered or administrative unemployment rate puts the number of unemployed and the number of total active population in relation. It is calculated in the Bureau of Statistics based on the data from the Croatian Employment Service and the Croatian Pension Insurance Institute. The surveyed unemployment rate is the result of the Labour Force Survey. According to the survey, unemployed persons are those who during the reference week did not work anywhere for money or payment in kind, those who were actively seeking employment in the last four weeks before the survey, and those that could start working in the offered workplace in the following two weeks, as well as those who had found a job and would start working in the near future (Croatian Bureau of Statistics, 2017). Workers in the "grey economy" who are regularly registered in the Employment Bureau obviously do not belong to this definition of the unemployed, and therefore the surveyed unemployment rate is almost always lower than the administrative one.

Table 5: Unemployment rates in the Republic of Croatia from 2007 to 2017

RATES	2007	2008	2009	2010	2011	2012	2013.	2014	2015	2016	2017
GDP	5,5	2,4	-5,8	-1,2	0	-2	-0,9	-0,4	1,6	3,2	2,8
Average monthly net salary	5,2	7	2,6	0,6	1,8	0,7	0,7	0,3	3,2	1,6	5,3
Real net salaries	2,2	0,8	0,2	-0,5	-0,4	-2,6	-1,5	0,5	3,7	2,8	4,2
Price indices	2,9	6,1	2,4	1,1	2,3	3,4	2,2	-0,2	-0,5	-1,1	1,1
Employment	3,3	2,5	-3,2	-4,4	-1,5	-1,1	-2,2	-1,6	1,1	0	1,1
Unemployment	-9,3	-10,5	11,2	14,9	1	6,2	6,4	-4,9	-12,9	-15,4	-19,8
Registered unemployment rate	14,8	13,2	14,9	17,4	17,8	18,9	20,2	19,6	17	14,8	12,1
Surveyed unemployment rate.	9,6	8,4	9,1	11,8	13,5	15,9	17,3	17,3	16,2	13,1	11,2

Source: Croatian Employment Service, CEZ. 2018. Godišnjak 2017. Zagreb: Croatian Employment Service, accessed:01/02/2020. http://www.hzz.hr/default.aspx?id=10055

Due to its clarity and simplicity, the unemployment rate is the most frequently used measure. It reflects the state of the economy, the success of economic policy and measures the severity of social difficulties and differences in a society. However, it does not say anything about the duration of unemployment, and its main disadvantage is the restriction of the very concept of the labour force on which it is based. The unemployment rate gives a signal to macro-economists about the state of the economy and desirable growth rate (Samuelson, P. & Nordhaus, W. D., 2011). The following chart presents the dynamics of employment and unemployment rate trends.

Chart 3: Parallel employment and unemployment rate trends from 2007 to 2017 (quarterly)
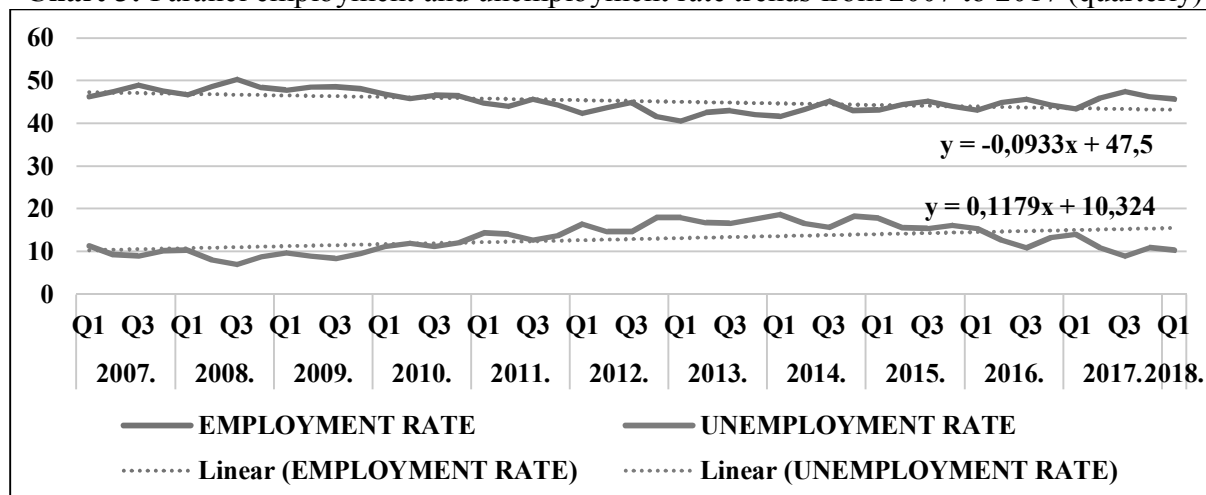
Source: Croatian Employment Service, CEZ. 2018. Godišnjak 2017. Zagreb: Croatian Employment Service, accessed:01/02/2020. http://www.hzz.hr/default.aspx?id=10055

When analysing trends employment and unemployment rate trends, there is a declining (negative) employment rate trend and an upward (positive) unemployment rate trend. This is the result of the crisis that led to a decrease in the number of employees in 2008 and 2009, which in the observed period decreased by 14.2% or as much as 221.3 thousand employees, thus significantly increasing the unemployment rate, from 13.2% in 2008 to 19.7% in 2014. Such trends in the labour market have also determined a relatively modest increase in net salaries, which in the same period, observed through their average value, and increased from HRK 5,178 to HRK 5,535 or only 6.9%.

2. Economic growth trends and employment changes in the Republic of Croatia

Unemployment is a macroeconomic phenomenon and is as such influenced by a number of external factors. The economic situation in the country directly affects the level of unemployment. This is because the economic situation determines labour market relations and operation of the market. The two most important macroeconomic aggregates are production and employment, linked by strong causality. Unemployment occurs when society does not sufficiently exploit its production potential, i.e. when the actual product is less than potential product. GDP growth leads to employment growth, leading to a decrease in unemployment. This relationship has a simple, but important implication (Blanchard, 2011): if the current unemployment rate is too high, higher growth of domestic product is necessary to reduce it. If the unemployment rate is too low, lower growth of domestic product is necessary to raise the unemployment rate. When the unemployment rate is around the right margin, domestic product growth should be capable of keeping unemployment almost constant.

2.1. GDP as a core activity of a national economy

GDP is the main macroeconomic indicator, i.e., a measure of economic activity of a country in a specific year. It is the value of all completed goods and services produced in a single country within a given period (usually at a quarterly, but annual level) expressed in monetary units. GDP excludes goods and services intended for further processing and production of goods and services (intermediate goods) with the aim of avoiding double counting of the same goods and services. In the calculation of gross domestic product, the market value of the elements involved is usually taken into account. The basic purpose of the calculation of gross domestic product is

to gain an insight into the economic activity of the country – development and growth level of its economy (Ekonomski rječnik, 2020). According to Eurostat statistical explanations (Eurostat Statistic Explained 2018), economic performance can be analysed by individual activities such as agriculture, forestry and fisheries; industry; construction; trade, transport, accommodation and food services; information and communication services; financial and insurance services; real estate business, professional, scientific, technical; administrative and auxiliary services; public administration, defence, education, health care and social welfare; art, entertainment, recreation, other service activities and activities of households and outside of territorial organisations and bodies. Data within national accounts include data on GDP components, employment, final consumption aggregates and savings. These variables are calculated on an annual and quarterly basis.

Chart 4: Dynamics of GDP trends of the Republic of Croatia according to the expenditure method — current prices (at the end of the period in HRK millions)
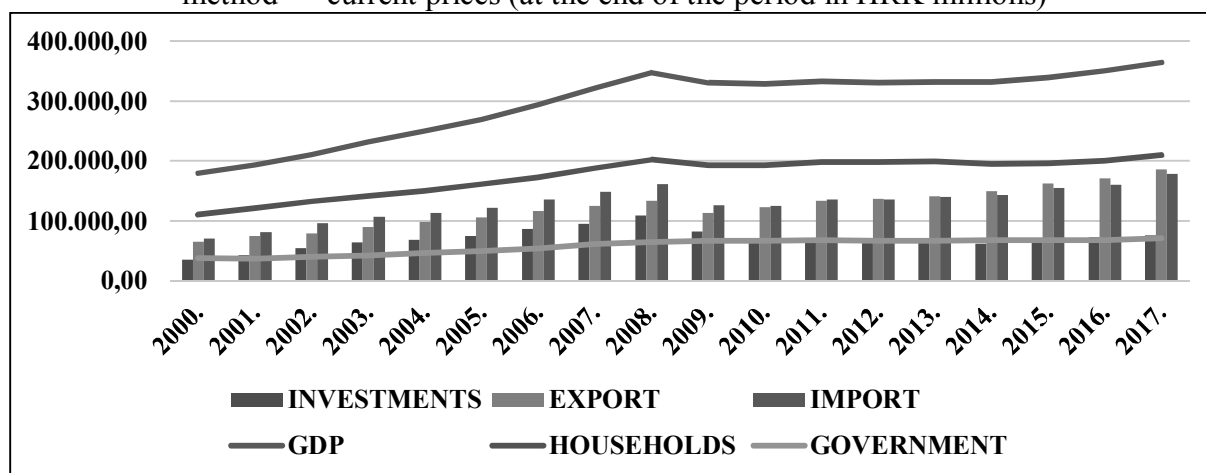
Source: CBS, Gross Domestic Product, expenditure method

This complex chart shows GDP trends and its components in two segments; development from 2000 to 2008 and stagnation until 2015, when a recovery from the impact of the global financial crisis occurred with considerable reservations. Import as a deductible item is highlighted bright red. Government spending, which remained insensitive to the impact of the crisis, is also significant.

The following table presents the dynamics of GDP trends of the Republic of Croatia according to the production method of the current price. The production method includes items such as: agriculture, forestry and fisheries, processing industry, mining and extraction and other industries, construction, trade, transport and storage, accommodation, food preparation and catering, information and communication, financial and insurance activities, real estate business, professional, scientific, technical, administrative activities, public administration and defence, education, health care and social welfare, other service activities and taxes on products reduced by subsidies on products.

Table 6. Dynamics of GDP trends of the Republic of Croatia according to the production method — current prices (at the end of the period in HRK millions)

NAC	2008	2009	2010	2011	2012
Agriculture, forestry and fisheries	13.611,29	13.393,53	12.201,69	12.041,26	10.947,70
Processing, mining and quarrying and other industries	56.933,58	55.527,93	56.649,61	59.543,46	60.288,52
Construction industry	24.954,01	22.653,90	18.876,22	17.605,81	15.348,45

NAC	2008	2009	2010	2011	2012
Trade, transport and storage, accommodation, food preparation and catering service	64.002,16	56.756,17	56.244,03	57.430,17	56.440,31
Information and communication	14.422,22	14.063,02	13.848,01	13.376,46	13.038,34
Financial and insurance activities	18.629,48	18.802,46	19.061,59	20.534,82	19.146,33
Real estate business	26.826,23	26.953,98	27.158,51	28.674,76	28.660,85
Professional, scientific, technical, administrative activities	24.659,24	23.309,59	23.222,13	23.266,33	23.045,18
Public administration and defence, education, health care and social welfare	41.248,81	42.968,38	44.034,69	43.894,11	43.318,14
Other service activities	8.342,53	8.207,98	8.173,34	8.357,33	8.455,07
Taxes on products minus subsidies on products	54.120,34	48.730,14	49.673,32	48.732,07	52.136,06
GDP — market prices	**347.749,8**	**331.367,1**	**329.143,2**	**333.456,6**	**330.824,9**
NAC	2013	2014	2015	2016	2017
Agriculture, forestry and fisheries	11.355,95	9.784,26	10.242,57	11.017,96	11.022,09
Processing, mining and quarrying and other industries	58.972,09	59.514,10	60.316,85	62.250,07	63.382,59
Construction industry	14.996,05	14.771,08	15.104,83	15.364,63	15.767,27
Trade, transport and storage, accommodation, food preparation and catering service	58.078,33	58.558,52	61.080,83	64.215,69	68.218,79
Information and communication	12.678,23	12.151,48	12.651,16	13.145,46	13.754,41
Financial and insurance activities	18.369,90	18.554,29	18.218,79	18.377,38	18.656,96
Real estate business	28.806,68	28.978,89	29.068,95	29.237,16	29.622,90
Professional, scientific, technical, administrative activities	23.259,78	23.623,86	23.586,48	24.165,69	25.288,51
Public administration and defence, education, health care and social welfare	42.197,33	42.059,89	42.662,39	44.065,03	45.926,37
Other services	8.701,40	8.954,91	8.972,43	9.519,30	9.916,80
Taxes on products minus subsidies on products	54.369,15	54.618,36	57.710,92	59.990,68	64.086,47
GDP — market prices	**331.784,9**	**331.569,7**	**339.616,2**	**351.349,1**	**365.643,2**

Source: CBS, Gross Domestic Product, production method

The decline in GDP from 2009 to 2014 was accompanied by a decline in long macroeconomic indicators. The level of industrial production in 2014 was 16.9% lower than in 2008, retail trade in real terms was 19.7% lower and physical volume of construction works was as much as 46.7% lower. The Republic of Croatia has a high share of tourism in GDP that varies between 18 and 19%, which is among the highest in the European Union. Due to such a high share of tourism in total GDP, seasonal oscillations occur which reach their maximum in the third quarter, and the minimum in the first one presented in the following chart.

Chart 5: Trend dynamics in the level of quarterly GDP for the period from 1-2007 to 1-2018 (in HRK million)
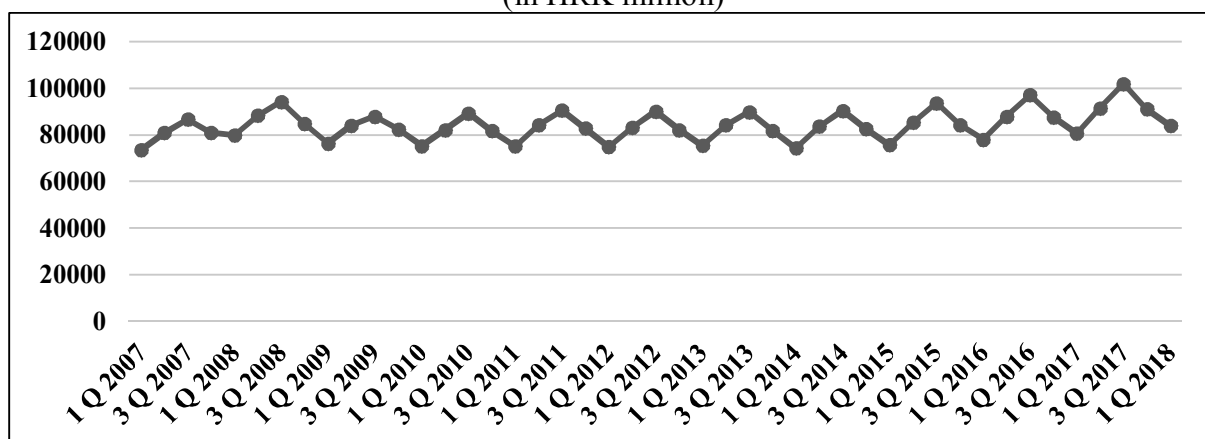
Source: CBS, Gross Domestic Product, seasonally adjusted growth rates

Chart 5 shows the reasons why GDP is monitored quarterly in the economy through real growth rates compared to the same quarter of the previous year and through real growth rates compared to the previous quarter.

2.1. The correlation between economic growth and the labour market situation in the Republic of Croatia

This part of the paper aims to show the existence of a correlation between growth/decline of gross domestic product and employment, i.e. unemployment of active labour force in the Republic of Croatia unemployment growth rate dynamics in relation to GDP growth rate.

Table 7: Correlation between variables uEMPLOYMENT and uGDP

PEARSON CORRELATION (NOMINAL)		
VARIABLE	uEMPLOYMENT	uGDP
uEMPLOYMENT	1	0,561
N		11
Significance		0,073
Mean value		2,0718
Standard deviation		4,07945
uGDP	0,561	1
N	11	
Significance	0,073	
Mean value	-01909	
Standard deviation	3,27307	
KENDALL **T** CORRELATION (ORDINAL)		
VARIABLE	uEMPLOYMENT	uGDP
uEMPLOYMENT	1	0,524
N		11
Significance		0,024
uGDP	0,5254	1
N	11	
Significance	0,024	
SPERMAN P CORRELATION (ORDINAL)		
VARIABLE	uEMPLOYMENT	uGDP

*u*EMPLOYMENT	1	0,736
N		11
Significance		0,01
*u*GDP	0,736	1
N	11	
Significance	0,01	

Source: SPSS Statistics 22 calculation

The correlation coefficient values point to the existence of a moderate positive link between the observed variables, i.e. how the increase in GDP growth rate influences the increase in employment rate growth. The high value of standard deviation indicates a wide range of values achieved by growth rates in the observed period. The correlation analysis also indicates that the increase in employment should affect the increase in GDP, which is not necessary considering the great impact of the imported component or lack of export competitiveness in the GDP structure. In the regression analysis model, the dependent variable is *u*EMPLOYMENT, while predictors, i.e. independent variables are *u*GDP, uM$_4$ and *u*M$_1$. The results of the analysis are:

Model 1. Regression analysis

1. Descriptive Table

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	,600^a	,360	,085	3,13047	,360	1,311	3	7	,344	1,267

a. Predictors: (Constant), uKREDITIPOD, uM1, uBDP

b. Dependent Variable: uZAPOSLENOST

The descriptive table shows that the correlation coefficient (R) of predictors is 0.600, indicating a moderately strong correlation. The determination coefficient (R^2) is 0.360 and it represents a quadratic deviation of the correlation coefficient and shows that this study explains 64% of variables, and for the other 36%, it is influenced by other (unknown factors for this study). F amounts to 1.531 indicating that there is no significant difference in variance deviations between dependent and independent variables. The value of the Durbin-Watson test indicates the representativeness of the regression model.

2. ANOVA

Model 2		Sum of squares	DF	Mean Square	F	Sig.
1	Regression	38,531	3	12,844	1,311	, 344 ^{b}
	Residual	68,599	7	9,800		
	Total	107,130	10			

a. Dependent Variable: uEMPLOYMENT

b. Predictors: (Constant), uLOANSENT, uM1, uGDP

Since statistical significance for all predictors is Sig. = 0.344, which is > 0.05, this means that the conditions for prediction are not good; they are rather in the sphere of random guessing. It is concluded that, despite the existence of a moderately strong link between employment growth and GDP growth, linearity between them is missing, which makes it impossible to predict anything above the trust of 65.6%, which is not enough for further research. This also confirms the hypothesis set for the research on the relatively strong correlation between employment growth and GDP growth. Furthermore, according to the data of the Croatian Chamber of

Economy (HGK, 2015), on the state of the basic characteristics of the Croatian labour market with the situation of labour market indicators of other EU Member States, the facts show that Croatia is among the three worst-ranked Member States according to seven basic labour market indicators: unemployment rate, employment rate, population activity rate, share of long-term unemployed, share of very long-term unemployed, the average duration of work life, youth unemployment rate. The same source states that Croatia still has a very low working life, on average only 31 years, almost 10 years less than Sweden or the Netherlands. Namely, the practice of early retirement is still ongoing today (also stemming from many years of economic crisis), and Croatia was warned thereof by the European Commission as part of the Procedure for the elimination of excessive macroeconomic imbalance, rating it in February of this year as the only one in which there was no implementation of the recommendations (it was assessed that Croatia did nothing to "reduce the attractiveness of early retirement"). In achieving the overall strategic objectives of the EU 2020, one of Croatia's main objectives is to achieve a 62.9% employment rate in 2020, which is the lowest value compared to the same objective of other Member States. For Croatia, this rate is ambitious enough, bearing in mind that in 2013 only Greece had a lower rate than Croatia (53.9%). In the pre-recession year 2008 Croatia had a 62.9% employment rate and a constant decline over the next five years. The aim is to try to bring the employment rate back to pre-crisis levels by 2020 (Institute of Public Finance).

3. Conclusion

This paper provides an overview of the selected macroeconomic indicators individually, their connections, and causality. Given the scope of the issues covered by the research subject, the paper summarised the key links and directions of their activities. Based on the conducted theoretical and empirical research, it is possible to summarise the following conclusions. A moderate correlation between employment growth and growth of gross domestic product has been proven. It can be assumed that this is caused by the seasonal character of the tourism sector, which influences increased employment during the season, but also increased unemployment out of season. A special emphasis is placed on the functioning of the Croatian labour market, because, regardless of various sources of data on unemployment, it remains a problem when analysing the age groups of unemployed persons. Difficult employability of young people and a relatively low rate of participation in the labour force of men in the most productive years and older persons are noticeable. Unemployment is also marked by an average long period of waiting for employment. Unemployment is related to labour market restrictions, strict employment protection regulations, and high unit labour costs. It can be concluded that the current situation in the Croatian labour market reveals a rather unfavourable structure, but also unsatisfactory dynamics of changes within the national economy as well as in European trends in a specific time period.

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A scientific paper

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PATIENTS' RELATIONSHIP MANAGEMENT PERFORMANCE INDICATORS SUCCESS IN HEALTHCARE INSTITUTIONS

ABSTRACT

Building and managing patient relationships are not an unknown area of healthcare management. On the contrary, it has been considered as a primary segment of governance for three decades back, which is becoming a more and more common topic not only in developed countries but also in countries in transition. What has not been sufficiently explored to date is how to monitor and evaluate the performance of that management. The aim of this paper is to investigate and present performance indicators based on the nine basic elements that make up the structure of a patient relationship management model. The starting elements of the patient relationship management model defined for this research are: patient trust management (1), therapy management (2), patient admissions management (3), hospitalization management (4), patient discharge management (5), patient safety management (6), managing patient suggestions, ideas and complaints (7), managing patient knowledge (8), managing patient partnerships (9). General methods of scientific research will be used. Over 50 indicators that will be presented in the work against the exposed elements should be sufficient, realistically applicable and valuable instrument to the managers in healthcare institutions in the management of patient relations. It is believed that the use of these indicators can improve the quality of health services and increase patient satisfaction. Systematic monitoring of the success of patient relationships contributes to streamlining expenditures to meet the ever-growing health needs. The paper represents a significant scientific contribution to the development of the concept of patient relationship management and is a kind of promotion of management in healthcare institutions in transition countries. Possibilities for the implementation of the proposed indicators should be viewed through the level achieved and the efforts being made in the implementation of management in both private and public health institutions.

Key words: *healthcare, patients, management, indicators.*

1. Introduction

Patient relationship management can rightly be considered the foundation of healthcare management. In the last two decades, a great many papers and research results have been published that confirm the above statement. What may be considered at this point unresolved or insufficiently addressed is the definition of the content of that management, and in particular the indicators that characterize those contents. It wasn't too long ago when doctors and other healthcare professionals persistently considered, thought and argued that a cured patient was also always a satisfied patient. A cured patient today is not always a satisfied patient. Instead of the facility, patients seek to be an active participant in their health care from planning to realization. They want their family, friends and relatives, the community in which they live and work, to be involved in the process. The quality of the health care service is not what health

professionals see it, but what patients perceive (perceived). Patients are becoming more organized and vocal in seeking better and more effective healthcare. They are looking for a free choice of doctors and healthcare facilities. They are aware of their rights to health guaranteed by all democratic constitutions in the world. Almost everyone involved in health care management today understands what this should mean and what benefits health and population have to their well-established patient relationship management systems, but very few can tell what all that discipline is all about. Namely, there is still no broad consensus among scientists that all has to do with managing patient relationships. The aim of the research is therefore to conceptualize patient relationship management content and then identify indicators for managing. The paper is methodologically based on secondary data. These are textbooks, manuals, professional and scientific papers. MEDLINE, PubMed, Science Direct, CINAHL, ProQuest, and Ovid were used from the databases. The primacy has been given to papers published in the last ten years.

2. Patients relationship management

Patients Relationship Management (PRM) is a relatively young discipline within healthcare management, and thus not yet well defined and substantively aligned. . The points of view and thematic elaborations presented in this paper represent the author's research and creative contribution. The conceptual basis of patient relationship management has major links to the concept of customer relationship management. It can be argued, quite reliably, that patient relationship management is, in fact, a tailored (adapted) client management relationship (CRM) model to the specifics of health needs and their satisfaction. Both PRM and CRM are basically about building lasting relationships with users of products and services. The concept of CRM is focused on the business sector, while PRM is based solely on health needs and finding rational approaches to addressing them. The need to build patient relationships was noted relatively late. This need seems to have arisen as perceptions have evolved that no society will be able to monitor and satisfy the explosive growth of health care needs in the previous, classic way of exclusively budgeting them. Chi-Yun Chiang was among the first scientists to spot this, and on that occasion offered a model for managing patient relationships (Chi-Yun Chiang, 1994, 7). His model was understandably general in nature and as such does not differentiate between the specificities of particular patient groups, which is his greatest disadvantage. Patient satisfaction should not be generalized. It depends on a number of situational factors and is generally specific to each healthcare facility.

One general, universal model for patient relationship management cannot be established since patients are extremely heterogeneous in structure. Thus, there are models of managing chronic patients, emergency patients, patients in outpatient treatment, hospitalized patients, psychiatric patients, management model in pediatrics, gynecology, infectious diseases, etc. Each of these models has its own requirements arising from the specificity of the disease.

This management includes the following segments:

1. Management of therapies,
2. Managing patients confidence,
3. Patients admissions management,
4. Management of hospitalization of patients,
5. Patients safety management,
6. Patients discharge management,
7. Manage patients comments, suggestions and complaints,
8. Patients knowledge management,

    9. Managing partnerships with patients.

The following will briefly (given the available space) be shown.

3. Patients confidence management

3.1. Management concept and content

There have been major changes in health-care relationships today in the patient-doctor relationship. The traditional patient-doctor relationship is a past in which patients often had a high level of boundless trust in their physicians. Such relationships were blind obedience and patient trust in the physician, and they arose and developed as a result of the mystification of health and medicine in general, but also of insufficiently informed and health-educated patients (Berry, L. L., et al, 2008, 76). The changes were due to a different organization of health systems and health care in general, but also to changes in the culture of health care delivery. Public attitudes about healthcare professionals and their inviolable authority are changing. They are generally accompanied by a general trend of declining respect for authority in the state and society, trust in experts and institutions. Instead of this traditional relationship, it strengthens patients' personal reliance on their own judgment and perceptions of health care facilities, doctors, health care, but also their own judgment of risk. The days of blind trust in health care institutions and doctors who know the best are history. The media today traces medical errors and reports on the incapacity of individual institutions and physicians, which undermines patients' confidence in health care institutions, healthcare professionals and healthcare institutions. It is extremely important for patients because it encourages the use of health services, disease prevention, discovers important medical information and has an impact on patient satisfaction, respect and continuity of health care. Patient confidence management content can be systematized as follows:

1. Identification of types and structure of patients (demographic, social),
2. Patients health literacy,
3. Patients commitment to the healthcare facility and healthcare professionals,
4. Patient awareness of the treatment plan,
5. Understanding the diagnosis,
6. Understanding the disease prognosis,
7. Understanding diagnostic treatments,
8. Understanding therapy,
9. Empathic abilities of healthcare professionals,
10. Perception of knowledge and skills of health professionals,
11. Communication skills and abilities of healthcare professionals,
12. Meeting patients expectations,
13. Capital and human resources of the health institution,
14. Length of waiting for admission for examination,
15. Belief in keeping patient information confidential,
16. The autonomy of patients' decision-making about their health and treatment
17. The ability of healthcare professionals to listen to patients,
18. Cooperative approach of healthcare professionals to patients,
19. Respect for patients' opinions,
20. Patients' experience of treatment at the healthcare facility concerned.

3.2. Management Performance Indicators

Table 1: Patients confidence indicators

Title of indicator	Display of indicator content
Health literacy of patients	Percentage of total patients actively involved in health literacy
Patient loyalty to a healthcare facility	Percentage of the total number of patients over five years without interruption is faithful to the healthcare facility
New patients	Percentage of newly arrived patients during the year in the total number of all patients
Empathic training for health professionals	Percentage of the total number of health professionals who have undergone active training in empathic training
Healthcare professionals' communication training	Percentage of the total number of healthcare professionals who have undergone active training in communication skills training with patients
Waiting for patients to review	Average length of waiting patients for review in the current compared to the previous year
Time spent on patients	Average total time spent per patient in the current compared to the previous year

Source: author

4. Therapy management

4.1. Management concept and content

Management of therapies varies depending on the structure of the patients: not chronic, chronic, emergency, psychiatric patients, etc. Thus, for long-term pain (lasting more than six months), an example of using hypnosis is given, which, as an adjunctive therapeutic method in addition to classic medicines, produces excellent results. (Elkins, G. et al., 2007, 275). The use of infrared radiation (IR therapy) is nowadays a well-developed and accepted method especially for wound healing, relief of arthritis pain, knee pain, increased endorphin levels and activation by neuromodulators (Gale, GD, et al., 2006, 193).). In widespread chronic diseases, it is becoming more complex and to some extent yielding controversial results (Inzucchi, S.E. et al., 2012, 24). The prevalence and incidence of type 2 diabetes is in intensive growth worldwide today, with WHO in particular saying that growth is high in developing countries. This disease is accompanied by numerous disorders, obesity and Westernisation of lifestyles. This increases the burden on healthcare systems significantly because of the rising cost of treatment and the complications that type 2 diabetes brings. Type 2 diabetes is the leading cause of a variety of diseases in the world today, such as: cardiovascular disease, blindness, kidney failure, leg amputation and many others. Significant shifts would be made by involving these patients more effectively in the planning and course of therapy. Without this cooperation, no progress will be made in the pharmacotherapy of type 2 diabetes. Physicians are aware of this and are accepting of this knowledge, but no satisfactory answer has yet been found regarding the higher level of patient participation in therapies. There is an increased risk of cancer, serious psychiatric illness, chronic liver disease, accelerated arthritis, etc. According to WHO, four of the top ten causes of disability in developed countries today are mental disorders, severe depression, bipolar disorder, schizophrenia, aggressive-compulsive disorder (Martin , LR, et al., 2005: 186).

Alcohol and drug addictions are among the most common psychiatric disorders that have an incidence of 26% in the US to 4% in China (Lakhan, S.E. 2008, 261). It is of utmost importance in the management of patient therapies that it is planned. Souza points to the value of therapy planning, which is reflected in the effectiveness of planning, among other things, the length of the waiting list for therapy (Souza, D.P. 2001, 304). The costs of hospitalization of patients due to poor patient cooperation with their physicians and ineffective treatment are growing enormously and today constitute one of the very complex problems (Martin, L.R., et al., 2005, 189). Therapy management should have the following facilities:

1. Planning of therapies and therapeutic procedures and procedures,
2. Communicating with patients,
3. Defining the waiting list,
4. Defining the plan and course of treatment,
5. Defining therapies,
6. Therapies for general patients,
7. Therapies for chronic patients,
8. Therapies for long-term pain,
9. Therapies in psychiatric patients,
10. Control of medication intake,
11. Monitoring the behaviour of patients during therapy,
12. Monitoring the effectiveness of patient treatment.

4.2. Management Performance Indicators

Table 2: Therapies management indicators

Title of indicator	Display of indicator content
Planning therapies	Percentage of planned therapies relative to the total number of therapies
Number of planned therapies	Increase / decrease in the number of planned therapies compared to all therapies in the current year compared to the previous year
Time spent on general patients	The average length of time spent per general patients in the current compared to the previous year
Spent time on chronic patients	Average time spent per chronic patients in the current compared to the previous year
Patients waiting for therapy	The average waiting time of the patients for therapy in the current compared to the previous year
Patients who refused treatment	Percentage of patients out of total who refused current therapy compared to the previous year

Source: author

5. Patients admission management

5.1. Management concept and content

There are numerous expectations of patients at admission to a healthcare facility. Among these expectations are that the physician will also sit down while interviewing the patients, honestly

answer patients' questions, show empathy and respect, involve the patients in health care decisions, and show sensitivity to the patients (Greenwood, B., 2013, 411). The patient's disagreement with his doctor's instructions as a reflection of admission below patient's expectations, that is, failure to adhere to therapy has major health and economic consequences. In the US, hundreds of billions of dollars are measured annually. Martin et al. report that the costs of hospitalization for patients due to patients' poor co-operation with their physicians and ineffective treatment amount to about $ 13.350 million annually and that this results in 125,000 deaths per year (Martin, L.R., et al., 2005: 186.

Content management of patients admissions should include:

1. Information on receipt,
2. Registration of patients,
3. Ordering patients,
4. Waiting for searches and reviews,
5. Inviting patients for examinations and examinations,
6. Emergency patients examinations and examinations,
7. General patients examinations and examinations,
8. Examinations and examinations of chronic patients,
9. Examinations and examinations of psychiatric patients,
10. Monitoring patients flow.

5.2. Management Performance Indicators

Table 3: Patients admissions indicators

Title of indicator	Display of indicator content
Time to register patients	Average time spent per patient to register patients at admission in the current as compared to the previous year
Patients waiting for examinations	Average waiting time of patients in waiting rooms for examinations in the current compared to the previous year
Time to final diagnosis	Average time per patients from arrival to the doctor's office to the final diagnosis (including time for examinations) and discharge from the healthcare facility in the current year
Number of patients admitted for examinations	Number of admitted patients for examinations in relation to the total number of interested patients

Source: author

6. Hospitalization management

6.1. Management concept and content

How important is the hospital management segment perhaps best reflected by the results of the following research. The most common errors that result in side effects during patients hospitalization are: technical errors (44%), diagnostic errors (17%), errors in prevention (12%), errors in therapy / medication use (10%). Almost 60% of incidents relate to failed diagnoses and treatment, decubitus and postoperative sepsis. The most common and sudden death of

patients occurs during low-risk hospitalization. There is a growing trend of side effects: respiratory failure (31%), medical care infections (14%), decubitus (19%), sepsis (41%), thromboembolism (42%), accidental injuries and wounds (17%) (Cunningham , TR & Geller, ES, 2011, 93). Patient satisfaction should always be viewed in parallel with the level of satisfaction of healthcare professionals. Aiken et al. have conducted a large survey of job satisfaction on an enormously large sample of as many as 43,000 nurses from 700 hospitals in five countries and found low job satisfaction for the nurses they perform. This satisfaction was in Canada 33%, England 36%, Scotland 38%, USA 41%, Germany 17%. It is alarming to find out in this research that one-third of nurses in England and Scotland plan to resign within twelve months of examination (Aiken, L., et al., 2013: 43).

The demand for hospitalization is mainly determined by the emergency admissions of patients. Because emergency admissions are generally difficult to predict, fluctuations in the capacity utilization of hospitals occur. Patients' hospitalization management usually involves:

1. Organization of admission of patients to hospitalization,
2. Patients care plan for the duration of hospitalization,
3. Plan of therapies, diagnostic treatments and procedures,
4. Patients visit plan,
5. The plan for involving the patient's family in treatment,
6. Information to patients about the purpose of hospitalization,
7. Patients safety aspects,
8. Communication skills and skills with patients,
9. Measures to prevent infections and injuries to patients during hospitalization,
10. Patients privacy measures,
11. Strategies for relieving health professionals from fatigue and stress,
12. Noise reduction measures in patients rooms,
13. Organizational aspects of hospital facilities and layout,
14. Plan of maintenance of hospital premises,
15. Environmental care plan for the health care institution,
16. Measures to prevent depression in hospitalized patients,
17. Night monitoring of patients,
18. Monitoring and resolving patient complaints, suggestions and complaints during hospitalization,
19. Plan of duration of hospitalization and discharge of patients,
20. Testing and monitoring patient satisfaction with hospitalization.

6.2. Management Performance Indicators

Table 4: Patients hospitalization management indicators

Title of indicator	Display of indicator content
Percentage of hospitalized patients	Percentage of hospitalized patients out of total who have a plan of care during hospitalization
Hospitalized patients with family involvement plan	Percentage of hospitalized patients out of total who have a plan to include their families during hospitalization
Hospitalized patients with a visit plan	Percentage of hospitalized patients out of total who have a visit plan during hospitalization

Title of indicator	Display of indicator content
Number of infections and injuries of patients during hospitalization	Increase / decrease in the number of infections and injuries of patients during hospitalization in the current compared to the previous year
Percentage of infected and injured patients during hospitalization	Percentage of infected and injured patients from the total number of hospitalized in the current year compared to the previous year
Percentage of noise in hospital rooms	Percentage of noise reduction / increase in hospital rooms (according to technical, measured indicators) in the current compared to the previous year
Percentage of depression in hospitalized patients	Percentage of diagnosed depression in patients who experienced depression during hospitalization in the total number of hospitalized patients
Number of depressed patients in hospitalization	Increase / decrease in the number of depressed patients during hospitalization in the current compared to the previous year
Night monitoring of patients	Percentage of full night patient supervision over the total number of hospitalized patients during the year
Average length of hospitalization	Average duration of hospitalization per patient (differentiated by diagnosis) in the current compared to the previous year

Source: author

7. Patient release management

7.1. Management concept and content

The release patients from the hospital is a complex process, full of different challenges. .According to data in 2006. in the US, 39 million patients were discharged from all hospitals, and nearly 20% of them returned to the hospital within 30 days of discharge. This amounted to an additional $ 17.4 billion, or 17% of total hospital payments (Alper, E. et al., 2014, 93). Once it is determined that the patients is ready for discharge from the hospital and that there are valid medical reasons for this, the healthcare team must evaluate and determine the most appropriate settings for continued patient care. This care includes the medical, functional and social aspects of the patient's illness. In addition to the medical team, the planning of patients discharge should involve the patients, his family, doctor, nurse, and if necessary, a physical rehabilitation therapist, social worker, health insurance representative, etc. The following facilities should be included in the management of patients release:

1. Release planning,
2. Instructions for the further treatment (continuation of treatment) of patients,
3. The inspection plan,
4. Outpatient treatment guidelines,
5. Patients' education,
6. Rehabilitation instructions,
7. Home visits and patronage,

8. Involving patients' families in the continuation of treatment,
9. Letter of release,
10. The social aspects of patients.

7.2. Management Performance Indicators

Table 5: Patient release management indicators

Title of indicator	Display of indicator content
Supply patients with release information	Percentage of patients provided with all necessary information for home, outpatient and further treatment in the total number of released hospitalized patients in the current compared to the previous year
Patients covered by post-release health treatments	Percentage of patients covered by home and home health care visits in the current year

Source: author

8. Patients safety management

8.1. Management concept and content

Almost all definitions that focus on patient safety came from efforts and a movement aimed at increasing the quality of health care services. The American Institute of Medicine (IOM) defines patient safety as preventing harm to patients (Mitchell, P., 2014, 48). Parand, Dopson, Renz, and Vincent advocate a patients safety measurement model, which rests on four categories of issues: frequency of harm to patients, physician interventions, lessons learned, patient safety culture (Parand, A., et al., 2014, 62). Henriksen and associates present a model of safety management strategy called TeamSTEPPS, a strategy to improve patients' performance and safety (Henriksen, K. et al., 2008, 158). Gever offered a ten-step patients' safety strategy. His strategy is aimed at preventing hospital infection and medical error. These steps range from simple hand washing hygiene, to surgery and the use of ultrasound (Gever, J., 2013, 36). There are strategies that are general in nature to reduce medical errors. Thus, McFadden, Stock, Gowen, and Cook adopt the strategy presented in seven steps (McFadden, D., et al., 2006, 258). Managed patients safety content consists of:

1. Condition and maintenance of equipment and devices in the healthcare institution,
2. Prevention of health errors,
3. Frequency of damage to patients,
4. Knowledge and skills of health professionals in eliminating sources of uncertainty,
5. Learning from mistakes,
6. Communication with patients,
7. Sterility of equipment and instruments,
8. Cleanliness of health facilities and equipment,
9. Prevention of health infections,
10. Prevention of falls and injuries to patients,
11. The culture of the health care institution,
12. Use of best health practice,
13. Maintenance of patients rooms,
14. Nutrition of patients,
15. Speed of response to patients calls,

16. Computer security and patients' protection.

8.2. Management Performance Indicators

Table 6: Patients safety management indicators

Title of indicator	Display of indicator content
Percentage of sterilization incidents	Percentage of incidents resulting from failures to sterilize equipment and instruments in the total number of sterilizations during the year
Number of sterilization incidents	Number of incidents caused by failures in sterilization of equipment and instruments in the total number of sterilizations in the current compared to the previous year
Number of non-medical staff in maintaining health facilities	The number of non-medical staff in maintaining the cleanliness of health rooms and hospital rooms in the current as compared to the previous year
Number of non-medical staff in the maintenance of buildings and equipment	Average number of non-medical staff in the maintenance of buildings and health equipment in the current as compared to the previous year
Number of falls and injuries of patients in hospitalization	Number of falls and injuries of hospitalized patients in the current year compared to the previous year
Percentage of falls and injuries to patients in hospitalization	Percentage of falls and injuries of hospitalized patients in the current year compared to the previous year
The time of arrival of healthcare professionals at the invitation of patients	Average time from hospitalization of patients to the arrival of healthcare professionals in the current year compared to the previous year
Changes in the time span from the call to the arrival of healthcare professionals	Percentage of increase or reduction in time from hospitalization calls to arrival of healthcare professionals in the current year compared to the previous year

Source: author

9. Management of proposals, suggestions and complaints of patients

9.1. Management concept and content

The health care system today is based on one major and utterly wrong assumption: that all patients can (and worse still have to) understand everything that healthcare professionals tell them while diagnosing and treating their health problems. In 2003 it is estimated that half of the national population in America is at a low literacy level. These patients cannot understand the instructions for taking their prescribed medicines, the side effects of these medications, the therapeutic effects and improvements by taking the medication, etc. It is similar to laboratory tests and patient treatments. Low levels of health literacy indicate that patients often return to their doctor's office to generate treatment costs or, more often, end up in emergency medical

care. The impact of unmotivated healthcare staff on patients dissatisfaction is direct. Thomas states, "If patients are dissatisfied with the service, there is certainly a reliable trend of dissatisfaction with unmotivated hospital staff." The same author indicates if patients are too demanding (that is, if they have more expectations of the hospital than they actually receive), they are often dissatisfied. For the most important motivators for healthcare professionals in creating patients' satisfaction, Thomas indicates: a high level of staff training and developing teamwork, good hospital management support, and a developed system of evaluating and evaluating staff performance (Thomas, S., 2007, 186).

There are seven categories of patients' complaints: perceived health service availability, patients' disrespect, inadequate information, unfulfilled patients' expectations, mistrust of healthcare professionals, poor communication and patients' misinformation (Wofford, M. M., et al., 2004, 58). The management content of this segment can be defined through:

1. Defining responsible persons / team to receive suggestions, proposals and complaints from patients in the healthcare institution,
2. Establishing protocols and procedures for resolving patients suggestions, proposals and complaints,
3. Knowledge of patients' needs,
4. Pointing out to patients the strengths and weaknesses of the healthcare facility,
5. Identifying and anticipating possible patient suggestions, proposals and complaints,
6. Aligning the resources of the healthcare facility with the suggestions, proposals and complaints of patients,
7. Selection of strategies for resolving patient suggestions, proposals and complaints,
8. Involvement of patient representatives in the work of the committee to resolve patient proposals, proposals and complaints,
9. Permanent training of healthcare professionals to acquire empathic abilities and values in working with patients,
10. Developing as many scenarios and procedures as possible for each scenario of patient proposals, suggestions and complaints,
11. Educating health professionals and other staff in healthcare facilities to participate in resolving patient complaints,
12. Monitoring incident situations.

9.2. Management Performance Indicators

Table 7: Indicators for managing patients suggestions, proposals, and complaints

Title of indicator	Display of indicator content
Protocol of patient suggestions, proposals and complaints	Existence of protocols and procedures in resolving patient suggestions, proposals and complaints
Number of patients involved in the work of the committee on proposals, suggestions and complaints	Percentage of the total number of patients in the current compared to the previous year who is involved in the work of the monitoring and resolution committees of patients
Patients suggestions	Percentage of patient suggestions compared to the total number of suggestions in the current compared to the previous year
Patients proposals	Percentage of patient proposals compared to the total number of proposals in the current year compared to the previous year

Title of indicator	Display of indicator content
Patients complaints	Percentage of patient complaints compared to the total number of complaints in the current year compared to the previous year
Successful resolution of patient proposals	Percentage of successfully resolved patient proposals in relation to the total number of proposals in the current compared to the previous year
Successful handling of patient suggestions	Percentage of successfully resolved patients suggestions in relation to the total number of suggestions in the current compared to the previous year
Successful handling of patient complaints	Percentage of successfully resolved patient complaints in relation to the total number of complaints in the current compared to the previous year
Time from receipt to resolution of proposals	Average time from the patients proposals received to the current proposals in the current compared to the previous year
Time from receipt to resolution of suggestions	Average time from the received patients suggestions to the resolved suggestions in the current compared to the previous year
Time from receipt to resolution of complaints	The average time from the received patients complaints to the resolved complaints in the current compared to the previous year
Involvement of health professionals in training sessions to address patient suggestions, proposals and complaints	Percentage of health professionals involved in training to acquire empathic and patients skills in expressing complaints and complaints relative to the total number of training sessions

Source: author

10. Patients knowledge management

10.1. Management concept and content

The education and educational level of patients with medical knowledge is now generally considered to be one of the basic preconditions for the survival and development of health care in the future. One model for diabetes care should be based on a partnership between the health system and the community, and include training patients with the knowledge and skills they need to help themselves and become actively involved in the care of their illness (Steleffson, M., et al, 2013 , 271). However, medical students are still under-prepared during their studies that their future patients will have (or will need to have) and greater general knowledge of their disease than their physicians (Snow, R., et al., 2013, 44). Patients' knowledge is also of great value in managing the quality of health care. Brent Jacobsen's survey of health service quality perceptions is known, with 6,000 patients participating (Brent C.J. 2007). It was about the perception of the quality of health care services at Intermountain Hospital, USA. Perceived quality stimuli were: quality through information; quality through the comfort of hospital stay; quality through the image and prestige of the hospital. Patients presented the quality of health care services through as many as 30 factors (Brent, C., 2007, 311).

Patients knowledge management content should include:

1. Building a model of continuous patients' education,
2. Continuous education on patients' diseases,
3. Education on chronic and infectious diseases,
4. Building positive attitudes in patients,
5. Patient motivation to acquire new knowledge and experiences,
6. Motivation of patients to cooperate with health care institution,
7. Monitoring the effects in patient education,
8. Plan and strategies for engaging patients in healthcare.

10.2. Management Performance Indicators

Table 8: Patients knowledge management indicators

Title of indicator	Display of indicator content
Patients engagement in health care	Percentage of the total number of patients actively engaged in health care in the current as compared to the previous year
Patients health education	Percentage of the total number of patients monitored for health education outcomes in the current as compared to the previous year

Source: author

11. Patients partnership management

11.1. Management concept and content

The concept of patient relationship management has emerged as a result of the growing commitment of healthcare organizations to reducing their costs while demanding for the improvement and growth of quality of health care. Many hospitals in the world today are turning to strategic alliances and partnerships with other hospitals, renowned physicians, health services, providers and patients. The trend of partnerships with patients is known as part of a comprehensive reform of the health system launched by WHO (World Health Organization). People, as patients of a healthcare institution, engage with it. The foundation and core of the modern concept of healthcare management is precisely the power of managing patients relationship management models and their implementation. as partners, "which sought to increase patient engagement in improving their health and a more effective health care delivery system (McQuillen, K. et al., 2013, 411). Several studies and physicians, the continuous acquisition of knowledge in patients and the willingness of patients to take care of their own health care (Hibbard, J. H., et al., 2004: 1005). Training patients with chronic illnesses to participate in the management of their illnesses on their own is effective and in the short term reduces the pain of these patients, and especially the cost of health care (Lorig, K.R. et al, 1999, 5). Partnerships and patients management should include:

1. Establishment and maintenance of a database of patients who can be included as partners of a healthcare institution,
2. Continuous education of successfully treated patients on the possibilities and content of their involvement in partnerships with the healthcare institution,
3. Involvement of families of successfully treated patients in partnerships with a healthcare facility,

4. Continuous development and support of the patient's self-medication system and patient self-help,
5. Permanent and deliberate involvement of successful patients in the various preventive actions of the healthcare institution,
6. Involvement of successful patients in the processes of redesigning primary health care in the field of health institution operation,
7. Involvement of successful patients in local community activities in the promotion and protection of human health,
8. Inclusion of successful patients in virtual social networks with the aim of promoting health care and prevention,
9. Organization of successful patients volunteering,
10. Systematic and continuous collection and use of patients knowledge and experience,
11. Building positive attitudes in patients towards partnerships with healthcare institutions,
12. Building patients confidence in the healthcare facility and healthcare professionals,
13. Patients motivation to engage in particular health activities,
14. Collaboration of Successful Patients in Teamwork and Decision Making in a Healthcare Facility.

11.2. Management Performance Indicators

Table 9: Patients partnership management indicators

Title of indicator	Display of indicator content
Number of patients interested in partnerships	Number of patients interested in partnerships with the healthcare facility in the current compared to the previous year
Number of patients interested in health care redesign	Number of patients interested in partnerships with a healthcare institution involved in the redesign of primary care in the current year
Volunteering patients	Percentage of patients from the total number of volunteers involved in healthcare in the current year compared to the previous year

Source: author

12. Conclusion

The nine elements that make up the concept of patient relationship management are certainly well descriptive, but still partial. Namely, healthcare management and patient relations management remain an open and under-researched concept and it will take considerable time and new research to achieve this. By the exposed structure of the elements, patient relationship management is an area in which healthcare management can reliably find a foothold in both improving the quality of healthcare services and the satisfaction of both patients and healthcare professionals. Above all, the implementation of the exposed components of patient relationship management should allow for rationalization and cost savings for health and consumption expenditures. In the next research, the author intends to focus on trying to apply the presented indicators in several major healthcare institutions in the Republic of Croatia in order not only to confirm their value, to identify possible mistakes and deficiencies, but also to obtain valuable data for comparison of health care institutions and their management success. relationships with patients. The inclusion of patients in active healthcare of the population and health teams enables a more rational management of human resources in healthcare, which is an extremely valuable aspect at the moment when there is an increasing lack of healthcare professionals,

especially in transition countries. The indicators offered in this research can realistically be a useful and useful toolkit for managers in healthcare settings to be able to position qualitative shifts in improving patient relationships. It is believed that this instrument will encourage health care managers to apply it experimentally, which will certainly be an additional impetus to the thinking started in this paper.

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BUILDING CONFIDENCE IN PATIENTS UNDER THE RATIONALIZATION OF HEALTH EXPENDITURE

ABSTRACT

Major changes in health-care relationships have emerged in health care today. The traditional patient-doctor relationship is a past in which patients often had a high level of boundless trust in their physicians. Such relationships were blind obedience and patient confidence in the doctor, and they arose and developed as a result of the mystification of health and medicine in general, but also of insufficiently informed and health-educated patients. The changes were due to a different organization of health systems and health care in general, but also to changes in the culture of health care delivery. Instead of this traditional relationship, it strengthens patients' personal reliance on their own judgment and perceptions of health care providers, doctors, health care, but also their own judgment of risk. Patient confidence is still extremely important to patients today, as it encourages the use of health care services, disease prevention, reveals important medical information and has an impact on patient satisfaction, respect and continuity of health care. The aim of the paper is to identify and investigate the components that create trust between patients and healthcare professionals, and to demonstrate on this basis possible behaviors of patients resulting from the resulting trust. There are a number of possible consequences of distrust in patients. By refusing to cooperate with patients in treatment, not only does the patient's health deteriorate, he or she returns to the doctor, but also the increased need for health services and the increase in the costs of treating patients. The study was conducted during 2019 on a quota sample of 120 subjects (patients) from the Central Croatia. The statistical analysis method was applied. Patient confidence was established using ten claims and five levels of agreement on the Likert scale. Pearson's correlation coefficients revealed a strong correlation between patients' behavioral patterns during their treatment and the confidence they had with physicians. The research seeks to contribute to patient satisfaction management as a key component in streamlining health care expenditures.

Keywords: health, patients, confidence.

1. Introduction

Everywhere in the world, regardless of the level of economic development of the country, health needs are steadily increasing. It is evident, especially in transition countries, that the greatest efforts in meeting these needs are focused on various aspects of their financing and only partly on the rationalization of health systems. The least attention is given to patient relationship management. The main generator of growth in health needs is being forgotten so far in patients, and these can only be realistically addressed through the development of this conceptual approach. There are a number of content items that fall under the denominator of patient relationship management. Building patients' mistrust of doctors, other healthcare professionals

and healthcare providers will surely be an accelerator in increasing health spending. Building and building that trust has been repeatedly useful in numerous studies. From more successful and faster treatment to reducing health care expenditures.

This paper seeks to highlight the basic aspects of patient confidence and explore how that confidence or distrust affects the possible behaviours of patients when using prescribed therapy. It is believed that research findings can be valuable to health policy creators, health care providers, and government employees and decision makers in deciding whether to meet health needs.

2. Types of patients

In order to understand the substance of patients' confidence, it is necessary to indicate at the outset the types of patients. There are three basic types of patients, health care users (McAlearney, et al, 2005, 14):

1. general patients,
2. chronic patients,
3. emergency patients.

General patients may be referred to as having some specific but present health problems and problems. When they usually do not come to the health care institution for the same health problem or appear after a while, if such difficulties recur, but at some regular interval. For example, with a toothache, the patient comes to the dental office and when the tooth is restored, it no longer appears until some other problems with the same or another tooth occur.

The World Health Organization (WHO) defines chronic patients as those requiring care for several consecutive years or more decades, and when using that care they are included and understood (WHO, 1988, 62):

- non-communicable diseases such as cardiovascular diseases, neurological diseases, cancers, etc.,
- persistent (resistant) chronic diseases such as diabetes, AIDS, etc.
- long-term mental disorders, eg schizophrenia
- diseases that affect the body structurally, such as amputations, paralysis, etc.

Chronic patients need to be referred to a specific healthcare facility. Emergency patients are involved in accidents: traffic, fires, earthquakes, etc. and need medical care immediately. These patients do not decide which healthcare facility to come to and are most often placed in the one closest to them.

3. Patients satisfaction

Patient satisfaction is very closely related to gaining confidence. A dissatisfied patient will never trust a healthcare facility. It is a generalized view that patient satisfaction (Zp) arises as a result between patients' expectations of a healthcare facility (Op) and whether it has resolved its need for health - that is, the actual satisfaction with its health service (Sz), ie:

$$Zp = f(Op; Sz)$$

Patient satisfaction is most often his or her subjective (but sometimes objective) experience of the healthcare provided. It is affected by a number of known and unknown touchable

(measurable, visible) and untouchable (immeasurable, invisible) elements. For example, if you ask a patient, "Are you satisfied with the length of time your doctor has devoted to you?" The term "length of time" is relative and is perceived and understood by each patient separately. There are no reliable and more widely accepted standards of satisfaction with health care services (Ross, A. et.al., 2002,173). Very often this satisfaction is not even a reflection of the actual improvement in the patient's health status before and after treatment.

Westaway and his colleagues have done one of the valuable patient satisfaction surveys. Based on a sample of 263 diabetic patients in two hospitals, using the factor analysis method, he identified the following factors for their satisfaction: hospitality of hospital staff, encouragement for treatment, and cleanliness of hospital rooms. Diabetics who were in poor health were statistically significantly less satisfied than those who were in relatively good, satisfactory condition. Likewise, patients who had poor mental health due to the effects of diabetes were statistically significantly less satisfied than those who were in relatively good mental condition. This research confirms that patient satisfaction is not only directly influenced by human resources in health care facilities, but also by a number of patient characteristics, their health and their disease characteristics. Indirectly, in these situations too, the support and attitude of healthcare professionals towards patients will have an impact on their overall satisfaction (Westaway, M.S et al., 2003,348).

Patient satisfaction is closely related to their expectations of healthcare professionals. Prakash exemplifies patients who come to aesthetic dermatology often with very high expectations and this in itself leads to an initial large gap between the dermatologist and the patient. Younger patients want and expect quick solutions to their problems and are more dissatisfied than older patients. Patients aged between 35 and 49 were most unhappy. The dissatisfaction of these patients is also affected by the degree of exposure to the advertisements, where they are given unrealistic promises and where, on the basis of such advertisements, patients create an unrealistic image of their appearance after dermatological treatments, that is, create an ideal image of their future appearance after treatment. If their image is not realized, they become dissatisfied with the services of aesthetic dermatologists.
Source: (Prakash, B., 2010, 151).

4. Confidence of patients

4.1. The concept and meaning of confidence

Major changes in health-care relationships have emerged in health care today. The traditional patient-doctor relationship is a past in which patients often had a high level of boundless trust in their physicians. Such relationships were blind obedience and patient confidence in the physician, and they arose and developed as a result of the mystification of health and medicine in general, but also of insufficiently informed and health-educated patients. Institutional patient trust (trust in a healthcare facility) has generally been at a high level in the traditional relationship. Behind the healthcare facility, the state stood and guaranteed patients adequate levels and facilities of health care and care.

These traditional patient-doctor relationships are changing today, and in many countries have gone down in history. The changes were due to a different organization of health systems and health care in general, but also to changes in the culture of health care delivery (Cunningham, T. R. & Geller, E.S., 2011, 106). Public attitudes about healthcare professionals and their inviolable authority are changing. They are generally accompanied by a general downward

trend in respect for authority in the state and society, trust in experts and institutions. Instead of this traditional relationship, it strengthens patients' personal reliance on their own judgment and perceptions of health care institutions, physicians, health care, but also their own judgment of risk (Caccia-Bava, M., et.al., 2003,311). The days of blind trust in healthcare facilities and doctors "who know best" are slowly going down in history. It was found that about 5% of adult patients aged 18-64 communicated with their physician at least once via email (Cohen, RA & Strussman, B., 2010,265) The media today monitors medical errors and reports on the incapacity of individual institutions and physicians, and this undermines patients' confidence in health care institutions, health care professionals and healthcare institutions (Bodenheimer, T., 2007,35) .

Patient confidence is extremely important to patients today because it encourages the use of health services, disease prevention, discovers important medical information, and has an impact on patient satisfaction, respect, and continuity of health care (Mitchell, P. et all., 2012, 215). In many countries around the world, patients can decide where, when and how to use health services, this is a challenge for health facilities. In Croatia, this is only partially possible since the law on health care determines, ie limits patients to the choice of primary care physician.Efforts to limit the choice of patients made by individual health systems have shown their complete failure and failure.

4.2. Elements of confidence

There are many elements that create trust between doctors and patients. Among the more significant are:

1. Intimacy, complexity, importance and sensitivity of medical services,
2. Time spent with patients,
3. Communicating healthcare professionals with patients,
4. Therapeutic effects,
5. Technical and technological equipment of health institutions,
6. Patient safety during treatment,
7. Patient flow,

The intimacy, complexity, sensitivity, and importance of medical services cause many patients to want to have continuity with a single physician in providing medical care. Several studies have shown that most patients have their chosen physician in primary care (Liss, C., 2007,82). According to one of them, 68.3% of primary care physicians perceive patients as "their patients", and 88% consider it in clinical care. or it is very important to have the same doctor for their health problems. In hypertensives, trust in doctors is extremely important when patients follow the doctor's recommendations when taking medication (Berry, LL, et al., 2008,65) .Trust of emergency patients is often based on their expectations Failure for emergency physicians to recognize and locate pain or a focus of pain in patients is a relatively common occurrence. emergency medical care, 69% of them waited for more than an hour after arrival and admission, while p rhymed analgesia, and 42% of them waited more than two hours for pain relief. Of those given analgesics, 32% received a lower dose of analgesics than was optimally predicted (Motov, S.M. & Khan, A.N., 2009.5).

Being a doctor means being almost always busy. This is especially true for primary care physicians who are coordinators of comprehensive patient care. Increasing administrative work shortens physicians' time to devote more time to patients. The 1995 survey performed by the

Commonwealth Health Fund found that 41% of physicians recorded a decrease in time spent with patients and 43% a decrease in time spent communicating with colleagues (Dougdale, D.C.et al, 1999,29). The same study found that 29% of physicians were dissatisfied with the amount of time they spent with their patients, and only 31% were satisfied. Physicians for women's illnesses had a higher rate of dissatisfaction (35%) and physicians who treated male patients 28%. Physicians younger than 50 years had a higher rate of dissatisfaction (33%) than those older, ie above 50 years. age (23%). The length of an average patient visit to a doctor varies from country to country. In the UK, the average visit to a GP was between 5 and 8 minutes, while in the US and Sweden it was between 10 and 20 minutes or more. However, home visits to patients are more common in the UK than in the United States. In 1993 the average length of visit for US family physicians was 20 minutes and that of an internist for 26 minutes (Dougdale, D.C.et al, 1999,34).

The following examples will illustrate the purpose of effective communication in patient confidence building. Due to poor communication with the doctor, one study confirmed: 25% of Americans did not follow the doctor's advice. 39% disagreed with the recommended treatment, ie therapy. 27% were concerned about the cost of recommended treatment; 25% found it very difficult to follow and remember the instructions given by their doctor; 20% think that the recommended treatment is contrary to their personal beliefs; 17% said it was not at all clear to them what they should do in their treatment (Greenwood, B., 2013,114). Inefficient communication in the healthcare team causes nearly 66% of all medical errors. As many as 71% of patients' complaints, and those to court, were the result of a poor doctor-patient relationship. One in four lawsuits resulted from poor medical information, and 13% resulted from the fact that the doctor did not want to hear the patient (Graham, S. & Brookey, J., 2008, 14). Research shows that doctors interrupted patients to listen to their difficulties and, on average, listened to them for only 18 seconds, which showed that they did not hear the difficulties they were experiencing, and that this reflected their efficiency in diagnosis and treatment, and created in addition to health additional costs and expenses in the treatment of patients.

The degree of coordination between intensive care staff has been shown to reflect dramatically on patient outcomes (Knox, G.E. & Simpson, K.R., 2004,468). Hospitals where this coordination was poor had as many as 58% more deaths than expected, while those with good communication had 59% fewer deaths than expected. Health care organizations such as the American Academy of Orthopedic Surgeons set certain expectations and behavioral health standards for physicians in communicating with patients. Among these expectations are that the physician will sit down while interviewing the patient, honestly answer patient questions, show empathy and respect, involve the patient in health care decisions, and demonstrate patient sensitivity (Greenwood, B., 2013,174).

Treatment of chronic diseases often involves long-term administration of pharmacotherapy. Although medicines are effective, 50% of patients do not take their medication as prescribed. There are a number of reasons for this: insufficient patient awareness and lack of sufficient patient involvement in the decision-making process (Graham, S. & Brookey, J., 2008,72). There are a number of mistakes that physicians make for this: prescription of complex drug regimens, communication barriers, ineffectiveness of communications on information about adverse drug effects, provision of care by multiple physicians, etc. (Henriksen, K. et al., 2008,538). Damages also come from the health care system: time limits on doctor's visits, limited access to health care, lack of health information technology. In addition to health literacy, regular medication use is also affected by high drug costs, lack of transportation, poor knowledge of drug and

treatment instructions, long waiting times in pharmacies, lack of family, poor mental health of the patient, lack of motivation for treatment. One study conducted on 1,341 hypertensive patients showed extremely good results in educating patients on the outcomes of their treatment.

It has also been found that the efficacy of treating chronic patients is influenced by combinations of multiple alternative therapies, as this creates initiation and an incentive for patients to become more actively involved and participate in their own treatment. Once prescribed a drug or treatment, if it lasts for a long time, creates a feeling for the patient that success in the treatment will be achieved and vice versa. If a different drug or therapy is changed at each visit to the doctor, this often creates a feeling of insecurity and futility for the patient. If more than one funnel or intervention is required in a single visit, then it is advised to provide the patient with a rationale for the procedure (Brown, M.T. & Bussell, J.K., 2011,304).

Telemedicine as a practice of providing healthcare to patients through the transmission of medical data through interactive audio and visual data communications has been successfully used in stroke management. About 20 million Americans over the age of 20 have had a stroke. Stroke frequency 2007-2008 was estimated at 3% of the total population. While 17.8% of the population over the age of 45 had at least one stroke. Projections show that by 2030 another four million Americans have a stroke, an increase of 24.9% from 2010. On average, every 40 seconds someone in America has a stroke. Stroke brings with it a number of complications of the disease: hypertension, diabetes, cardiovascular disorders, and often the cause of death. This indicates the need for intensive stroke care and the prevention of disability and deaths. Large amounts of data can be transmitted over a high-bandwidth mobile phone, so that physicians in hospitals already evaluate the stroke and required interventions on the basis of the Stroke Assessment Scale made using the patient's data and images before they arrive at the hospital. With the crash, doctors will be able to connect with their patients living in rural areas thousands of miles away. This standalone IT unit can be located in general practitioners, county hospitals, but also in shopping centers, schools, hotels, etc.

Using advanced teleconferencing systems, surgeons will be able to communicate full-size video from one operating room to another operating room at the other end of the country or world. This will allow highly experienced surgeons to provide consultative support to less experienced colleagues at the time they need it most (Wang, L. & Alexander, C.A., 2013,34). Information technology provides patients with chronic illness with new tools to manage their disease. For example, the HTS system (Home Telecare System) integrates patient monitoring signs at home, automates scheduling, and directs the patient to the necessary examinations; gives the patient a reminder to take the medication; provides necessary information for health education to the patient; activates patients to strengthen their role as active caregivers in the healing process (Doebelling, B.N. et.al., 2006,552).

Patient safety involves a number of measures to prevent and mitigate the harm caused by errors in healthcare team failures. Patient safety programs are specific to each healthcare facility. Thus, for example, Mitchell presents one such plan by its basic points for surgery, which is made up of eight preventive focus points (Mitchell, P., 2012,386). Parand with associates advocate a patient safety measurement model, which rests on four categories of issues: the frequency of harm to patients; physician interventions based on incoming calls from patients; learning from mistakes; enhancing patient safety culture (Parand, A., et al., 2014,722).

Admission, hospitalization and discharge of patients significantly create confidence in healthcare professionals and the healthcare facility. A study conducted on a sample of 897

patients at one large Northwestern University hospital was conducted using a structured interview to find out whether patients know their healthcare professionals' names during their hospitalization and whether they understand their care plan during hospitalization. The results showed that 32% of hospitalized patients did not know when they would be discharged from the hospital, and 54% indicated that there was no agreement between them and the doctor about changes to daily therapy (Mitchell, P. et al., 2012,47). The discharge of patients from the hospital is also a complex process, full of different challenges. According to data in 2006. 39 million patients were discharged from all hospitals in the United States, and nearly 20% returned to hospital within 30 days of discharge. This amounted to an additional $ 17.4 billion, or 17% of total hospital payments (Alper, E. 2014,84).

5. Objectives and hypotheses of research

There are two goals to be achieved in this research. First. determine the structure and ranking of factors that create patient confidence in healthcare professionals. The second is to find out how this confidence reflects on the health of patients in the direction of faster and more successful healing.
According to these goals, two hypotheses are put forward.
H_1 - Patient confidence is a multilayered construct.

H_2 - Patient confidence is reflected in the course and effects of their treatment.

6. Methodology

6.1. Research Design and Ethics

Secondary and primary data were used for research purposes. The secondary ones are textbooks, manuals, professional and scientific papers. MEDLINE, PubMed, Science Direct, CINAHL, ProQuest, and Ovid were used from the databases. The primacy has been given to papers published in the last ten years. The primary source of data was a structured questionnaire constructed for the purposes of this research. The construction was derived from a number of questionnaires used in earlier published studies by the authors in this field.
This study did not pose significant risks to participants (patients) as it is not primarily focused on providing ethical decisions for clinical trials involving new drugs, experimental studies, and studies requiring human biological samples. The survey was completely anonymous. Verbal consent was obtained from each participant. All participants were provided with information about the research goals and process. In order to protect participants from the risk of the survey, participants' names, identification numbers and names of health care institutions and physicians were not recorded. The interviewer interviewed interviewees on premises that were not part of health facilities or premises. It was completed between August and December 2019. This research is not related to clinical trials involving new drugs, experimental research and studies that require human biological samples and thus did not require the approval of the relevant ethics committee.

6.2. Population and sample

The study population consisted of chronic patients from multiple health centers in central Croatia. Patients were not differentiated from their diagnosis in the sample selection and were not considered or included in the questionnaire. A random selection of subjects was used based on data collected from different chronic care clubs and associations. But here too, there was difficulty and resistance to gathering data. Unfortunately, healthcare institutions have not

shown the receptiveness and understanding to allow access to this information under the most common excuse that it is their professional secret. The survey included 120 respondents. Oral consent was obtained from each respondent prior to the start of the interview, although a significant number of patients contacted declined to consent to the interview

6.3. Research instrument

The research instrument was a structured questionnaire composed according to a Likert scale model. It had three parts. The first one included four demographic characteristics of the respondents. The age of three groups: the first to 30 years, the second from 30 to 50 and the third over 50 years. Gender: female, male. Vocational education: high school, university, college. Disease duration: up to 5 years, 5 to 10 years, more than ten years.

The second part of the questionnaire contained 14 items in the form of statements that sought to reach patients' confidence in selected GPs. Respondents were offered five levels of agreement with these claims. The levels are: always (1), quite often (2), sometimes (3), rarely (4), never (5). Claims were constructed based on previously used and successfully validated instruments of published papers and research as shown in Table 1.

Table 1: Claims for establishing patient confidence in family medicine physicians

Elements of confidence	Claims	Sources used
Intimacy, complexity, importance and sensitivity of health services	During my treatment, my doctor changed frequently	Berry, L.L., et al., 2008
	I have been waiting for a long time to see a doctor	
Time spent with a doctor	My doctor does not have enough time to listen to me thoroughly	Dougdale, D.C.et al, 1999 Greenwood, B., 2013
	I find it difficult to talk to my doctor because he is always too busy	
Communicating patients with the doctor	I take cautions and reservations with my doctor for advice and recommendations for treatment	Greenwood, B., 2013
	I usually fail to remember the tips and instructions the doctor gives me	
Perception of therapy	I am not sufficiently versed in the treatment prescribed by my doctor	(Brown, M.T. & Bussell, J.K.,2011
	They often change my therapy without telling me so that I lose confidence in its effectiveness	
Health and IT equipment	The equipment they use for diagnosis and treatment is unavailable to me and I have been waiting a long time	Wang, L. & Alexander, C.A.,2013
	IT and telecommunications equipment in no way allow me to better contact my doctor	
Patients safety	I do not get immediate medical attention when I need it and I have been waiting for it for a long time	Motov, S.M. & Khan, A.N., 2009 Parand, A., et al.,2014
	I do not feel safe during examination and treatment	
Patients flow	Enrollment lists do not follow admission lists and wait in waiting rooms for too long	Alper, E. 2014
	When I was in hospital I was not satisfied with the treatment provided	

Source: author

The third part of the questionnaire contains the respondents' claims about their intended behavior towards the prescribed therapy. There are five levels to these claims: I do not take prescribed therapy at all (1), sometimes I use it at my own discretion (2), I think about whether to use it (3), but I do not take it regularly (4), I take it regularly (5).

6.4. Research Method

The statistical analysis method was applied. Cronbach alpha indicators were used to determine the reliability of the scales (Cronbach, L.J., 1951,314). Microsoft Excel software and SPSS (Statistical Package for Social Sciences, 21.0) software were used in the data processing.

6.5. Limitations

Globally, the lack of published research on patients 'trust in physicians, other healthcare professionals and health care providers and the effects of trust or distrust on patients' health is not pronounced today. Only a small part of them is presented in this paper. What is missing is that most of this research is focused mainly on high-income countries. The weaknesses of these studies limit their power to generate general evidence-based findings for low-income transition countries.

7. The results

Table 2: Demographic characteristics of respondents

Characteristics of the group and sub-group of subjects (patients)	Number of respondents	Percentage
1. Age (years)	120	100,00
1.1.to 30	29	24,17
1.2.31 -50	51	42,51
1.3.51 and more	40	33,32
2. Gender	120	100,00
2.1.female	72	61,05
2.2.male	48	38,95
3. Qualifications	120	100,00
3.1.median	64	53,30
3.2.high	31	25,83
3.3.university degree	25	20,87
4. Duration of illness in years	120	100,00
4.1.to 5	26	21,67
4.2.6 - 10	38	31,65
4.3.11 and more	56	46,68

Source: author

Most respondents (Table 2) were women (61.05%) aged between 31 and 50 years (42.51%), secondary education (53.30%) with a duration of chronic diseases of 11 years and older (46, 68%).

Table 3: Determining the reliability of the Cronbach alpha scale

Claim	Calculate α	Reference ι	The meaning of reliability
During my treatment, my doctor changed frequently	0,8266	$0,8<\alpha<0,9$	good
I have been waiting for a long time to see a doctor	0,7905	$0,7<\alpha<0,8$	acceptable
My doctor does not have enough time to listen to me thoroughly	0,9374	$0,9<\alpha\,1,0$	excellent
I find it difficult to talk to my doctor because he is always too busy	0,7692	$0,7<\alpha<0,8$	acceptable
I take cautions and reservations with my doctor for advice and recommendations for treatment	0,5761	$0,5<\alpha<0,6$	insufficient
I usually fail to remember the tips and instructions the doctor gives me	0,8583	$0,8<\alpha<0,9$	good
I am not sufficiently versed in the treatment prescribed by my doctor	0,7092	$0,7<\alpha<0,8$	acceptable
They often change my therapy without telling me so that I lose confidence in its effectiveness	0,9359	$0,9<\alpha<1,0$	excellent
The equipment they use for diagnosis and treatment is unavailable to me and I have been waiting a long time	0,5786	$0,5<\alpha<0,6$	insufficient
IT and telecommunications equipment in no way allow me to better contact my doctor	0,5291	$0,5<\alpha<0,6$	insufficient
I do not get immediate medical attention when I need it and I have been waiting for it for a long time	0,8480	$0,8<\alpha<0,9$	good
I do not feel safe during examination and treatment	0,7116	$0,7<\alpha<0,8$	acceptable
Enrollment lists do not follow admission lists and wait in waiting rooms for too long	0,5043	$0,5<\alpha<0,6$	insufficient
When I was in hospital I was not satisfied with the treatment provided	0,7938	$0,7<\alpha<0,8$	acceptable

Source: author

According to the data in Table 3 of the 14 assertion items included, 10 of them were found to be reliable. These 10 items are included in the further processing of the trust. Both items of claims related to IT and healthcare equipment were not substantiated by reliable and item of claims related to patient communication with physicians. The claim of the item "Admission

lists do not adhere to enrollment lists and wait too long in waiting rooms" (referred to the flow of patients) also did not appear to be emphasized.

Table 4: Mean (SV) and standard deviation (SD) of included items (claims) of the Likert scale

Included scale items	SV	SD
During my treatment, my doctor changed frequently	**2,2108**	**4,0375**
I have been waiting for a long time to see a doctor	3,5305	1,9473
My doctor does not have enough time to listen to me thoroughly	**2,1055**	**3,2026**
I find it difficult to talk to my doctor because he is always too busy	**2,2861**	1,5384
I usually fail to remember the tips and instructions the doctor gives me	3,2013	2,7568
I am not sufficiently versed in the treatment prescribed by my doctor	**2,1025**	**3,7394**
They often change my therapy without telling me so that I lose confidence in its effectiveness	3,4022	1,5832
I do not get immediate medical attention when I need it and I have been waiting for it for a long time	3,3516	2,7648
I do not feel safe during examination and treatment	**2,3318**	**5,1062**
When I was in hospital I was not satisfied with the treatment provided	3,0390	1,2164

Source: author

The mean values of patient claims are quite low and unfavorable for building trust in health services (Table 4). They were often changed by doctors who did not have enough time to listen to them according to patients' expectations. Patients also have a poor understanding of their prescribed treatment and feel unsafe during examination and treatment.

Table 5: Pearson correlation coefficients of items included in creating patient confidence and intended patient behaviour

Intentional patients behavior

Patients trust items included		1	2	3	4	5
	1	0,3016	0,4105	0,4820	**0,7152**	0,0424
		0,2816	0,3847	0,3262	0,4621	0,1753
	2	0,5291	**0,6277**	0,4107	**0,6820**	0,2856
	3	0,4823	0,5458	**0,6108**	**0,8316**	0,3611
		0,3174	0,3302	**0,7325**	**0,7029**	0,0755
	4	0,2920	0,4528	0,4419	0,3307	0,4072
	5	0,3154	0,2407	**0,6482**	0,2915	0,4713
		0,2610	0,0462	0,2508	0,1483	0,2937
	6	0,4103	0,1725	**0,6071**	0,0316	0,4909
		0,3826	0,5201	0,3392	0,2054	0,0746

Source: author

The greatest deviation from the mean values was recorded with the item "My doctor does not have enough time to listen to me thoroughly", and five times the mean value. It is similar to the

item "I do not feel safe during examination and treatment" where the deviation from the mean value is also five times greater.

It was concluded (table 5) that there were no significant associations between the ten claims that presented patients' confidence and their intended behavior that they would not receive prescribed therapy, which could be attributed to the likely awareness of patients about the possible consequences of not taking prescribed therapy despite evident mistrust of physicians. There is also no significant correlation between claims that reflect confidence and the regular use of prescribed therapy.

In patients who stated that their physician did not have sufficient time to listen to them thoroughly, there was a significant association with the use of therapy in their own judgment (r = 0.6277). Patients are considering whether to use the prescribed therapy at all in situations where they are unable to speak to their physician because of their perceived over-occupation (r = 0.6108), unprecedented physician instructions and advice (r = 0.7325), frequent changes to therapy, and doubts about efficacy the same (r = 0.6482) and due to feelings of insecurity during the examination (r = 0.6071).

Patients take the therapy, but not regularly (as prescribed) with frequent changes of the doctor (r = 0.7152), when the doctor does not have enough time to listen to them (r = 0.6820), when it is difficult to talk to them. doctor (r = 0.8316) and when they fail to remember the advice and instructions given by the doctor (r = 0.7029).

8. Discussion

The vast majority of published research indicates and confirms that patient and physician relationships are changing intensively today, and in many countries have gone down in history. Cunningham and Geller confirm that these changes are due to a different organization of health systems and health care in general, but also to changes in the culture of health care delivery. and patients past. It would be worthwhile to give some attention to this in some future research. Caccia-Bave points out that, instead of this traditional relationship, it strengthens patients' personal reliance on their own judgment and perceptions of health care providers, physicians, health care, but also their own risk judgment. Despite maintaining the traditional physician-patient relationship, research findings indicate that health professionals 'and institutions' judgment of patients and the course of their treatment are being strengthened, which can be considered a qualitative and desirable shift. Patients are considering whether to use the prescribed therapy at all in situations where they are unable to speak with their physician because of their perceived overconfidence, because of unprecedented instructions and advice from the physician, frequent changes in therapy and doubts about their effectiveness, and feelings of uncertainty during the examination.

Patients pointed to a frequent change in the chosen physician and gave a negative assessment of this in creating their confidence in the health care institution (mean scale. This confirmed the result Liss claimed that most patients wished to have continuity with a single physician. Considering that the patients were chronic patients and that it was possible to compare the results obtained by Berri and his colleagues, they found that patients' trust was obtained with the same physician and his recommendations for taking the medication. therapy that may be linked to their dissatisfaction with frequent changes in doctors and lack of confidence.

We found that the respondents, ie patients who stated that their doctor did not have enough time to listen to them thoroughly, had a significant connection with the intention to use therapy and to consider whether to use their prescribed therapy in situations where they are unable to talk

to their doctor. his preoccupation. This confirmed the results of research conducted by Dougdale et al. As they did not have enough time with the doctor, they confirmed the results of the patients' attitude towards the use of the prescribed therapy. which was confirmed by research cited by Greenwood, Graham, and Brookley. In this study, patients take therapy, but not regularly because of frequent doctor changes, when the doctor does not have enough time to listen to them, when they find it difficult to talk to the doctor, and when they fail to remember the advice and instructions given by the doctor.

9. Conclusion

It has been identified the structure of factors that drive patients' confidence in physicians and healthcare providers. We have also come to understand how this confidence affects patients' health in the direction of faster and more successful healing. Patients have defined the forms of their behaviour that derive largely from insufficiently created trust. The goals set out in this research are thus fully met. The first hypothesis that multi - layered patient trust is composed of six identified constructs was fully confirmed, while the second hypothesis that patient confidence is reflected in the course and effects of their treatment can be partially accepted given the results shown in Table 5. These results can be a very useful double roadmap. They point to the need for further and deeper research on a much larger sample to arrive at more analytical insights. The roadmap is to all policy makers and policy makers and health care financing providers about a new approach to addressing them. In this approach, one of the realistically applicable models is the decisive implementation of the concept of management in healthcare and, within it, the primacy of patient relationship management. In transition countries, such as Croatia, such an approach can enable more efficient management of health needs, resources and rationalize human and capital resources in health care institutions and the entire healthcare system.

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BUSINESS ENTITY RELATIONSHIP WITH THE LOCAL COMMUNITY AS PART OF CORPORATE SOCIAL RESPONSIBILITY

ABSTRACT

The term and practice of corporate social responsibility (CSR) refers to the entire range of activities and to all relationships that a business entity establishes internally and externally with the community. The external dimension of CSR involves several stakeholders, each with specific interests, and it is crucial to identify those relevant to the business of the business entity. Good relationships with the local community and involvement of businesses in activities through sponsorship, donations and volunteering help build overall social capital in society. The fundamental question is how to design activities that will have positive effects on the business of the business entity.
The purpose of this paper is to investigate the relationship of the business entity with the local community as part of the CSR. The theoretical part of the paper provides an overview of relevant sources regarding the creation of a framework for understanding the relationship of businesses with the local community. The empirical part of the paper is based on the research conducted in the period 2017-2018. By using the qualitative approach to research, primary research data on CSR activities related to the local community are obtained through personal structured interviews with open question questionnaire conducted with executive managers coming from four businesses in the food processing industry ranging from the small and medium to large sized entities. In the interviews, managers were probed on several questions from the level of knowledge of CSR up to various CSR activities related to the local community. The deductive analysis of interview data is particularly focused on assessing in what way the social responsibility is expressed in specific management practices towards local community as stakeholder group. The findings of the research confirmed that the relation to the local community requires a systematic approach that is part of the overall strategy.

Key words: *corporate social responsibility, corporate philanthropy, volunteering, local community.*

1. Introduction

Business entity relationship with local community is important part of external dimension of corporate social responsibility (CSR). It has two aspects which include positive and negative impact on local community. While positive aspect includes donations, sponsorships,

employees volunteering and partnerships with non-profit organizations, negative aspect is related to environment pollution, mass job layoffs and business or plant closures.

A vast number of business entities are involved in projects and activities related to local community. Their involvement is mostly characterized as philanthropic because it includes sponsorships and donations in products and/or money. Employees volunteering during their working hours is rather rare in the Republic of Croatia. Trends in developed countries include employees volunteering together with development of strong partnership relations with non-profit organizations as important factor of civil society.

Business entities involvement in local community programs mostly include areas such as sports, health, children, and younger generations in general together with socially marginalized groups. There is also tendency to contribute in development of local economy by supporting local suppliers or investing in infrastructure.

The marketing agency Puls which is specialized for market research, conducted research in 2003 for UNCIEF on a sample of hundred business entities. The main goal of this research was to gather information related to corporate philanthropy in the Republic of Croatia. Sample consisted of 32 large and 68 medium-sized business entities. Analyses of research data showed that 99% of business entities participated in certain type of corporate philanthropy which included sponsorships (73%), donations (94%) and partnerships (29%). Majority of research participants stated that the main reason for sponsorships and donations that motivated them were humanitarian reasons and gained benefits such as promotion and positive public image (Bagić et al., 2004). Leko Šimić and Čarapić (2009) conducted research which confirmed that companies are more focused on external activities of CSR concept because they are regarded as more visible and profitable.

The purpose of this paper is to investigate the relationship of the business entity with the local community as part of the CSR. The goals of the paper are to briefly present positive and negative aspects of business entity relationship with local community, to present research findings on the business entity with the local community and to suggest possible further research. The paper is structured in 6 sections. After the introductory remarks, the section two deals with the positive aspects of the business entity relationship with local community while section three focuses on the negatives one. Section four presents research methodology. Section fives deals with research results obtained from the research conducted in four businesses in the food processing industry ranging from the small and medium to large sized entities, focusing investigating the level of knowledge of CSR as well as various CSR activities related to the local community. The paper concludes with section six.

2. Positive aspects of business entity relationship with local community

Through positive aspects of relationship with local community business entities may achieve advantages and positive effects on their business. It is necessary to identify key stakeholders, follow-up taken activities and measure effects through reporting. To successfully develop relationship with local community social, economic, and environmental issues must be integrated with business entity policies on the strategic level. It is also crucial to involve top management in these activities.

Matešić et al. (2015) include in positive aspects of the business entity relationship with local community financial support, formalized communication with local community representatives, percentage of donation related to income, time that employees spent volunteering in community, donations in products, sponsorships, engagement in development of public policies, social dialog etc. Kotler and Lee (2009) distinguish six ways of business entity relationship with local community: corporate promotion of social goals, company marketing connected with social goals, social marketing, volunteering for the community,

corporate philanthropy, and corporate social responsibility as business practice. Carroll and Buchholtz (2015:463) emphasize two types of positive aspect that business entity may have with local community. These are employees volunteering and donations or corporate philanthropy. They also pointed that is very hard to distinguish these two types in general because of frequent overlapping in everyday activities.

According to research conducted by Boston College Center for Corporate Citizenship (BC CCC, 2015) on sample of 236 business entities in United States support programs to local community have positive impact on business entity reputation together with attracting and retaining high quality employees.

Employees volunteering is activity which brings benefits not only to local community but also for business entity through increasing employee's motivation and satisfaction. Some of the potential problems related to employees volunteering are follow-up, coordination, and measurement of the results. These potential problems are very common in multinational business entities which have global operations. It is also necessary to organize employee's volunteering according to corporate business goals and strategies to avoid dispersion of activities on different areas. To avoid potential problems Kotler and Lee (2009) suggest six steps to develop volunteering program:

1. develop guidelines for employees volunteering,
2. determine type and extent of support,
3. develop plan for internal communications,
4. create plan for giving recognition to involved employees,
5. develop plan for informing the public and
6. create follow-up and assessment plan.

Corporate philanthropy is another positive aspect of business entity relationship with local community. Kotler and Lee (2009:143) define corporate philanthropy as „direct contribution of the corporation for particular humanitarian action or social cause, in most cases in a form of cash contributions, donation of services or/and products ". Nonprofit or so called third sector depends on donations because it insures them independence.

Business entities most commonly donate to education, health and culture institutions, community development programs and organizations involved in environment protection programs. Hill et al. (2003) pointed that the most important part of corporate philanthropy is to establish balance between interests of shareholders and local community as two important stakeholders.

Porter and Kramer (2002) emphasized in their work connection between corporate philanthropy and competitive advantage. Business entity may achieve synergy between social and economic goals through revision of existing donations, identification of key stakeholders, program selection according to business entity's strategy and control, measurement, and reporting. The main task is to connect philanthropic activities with strategic goals of business entity. Effective program of strategic philanthropic activities has following characteristics:

1. it is in accordance with strategic goals and mission statement of business entity,
2. it relates to other programs for improving relationship with local community,
3. budget and resources are enough for achievement of proclaimed goals,
4. policies and directions are clearly defined,
5. employees are involved in philanthropic activities,
6. stakeholders are involved and informed about program of philanthropic activities and
7. develops long term partnership between business entity and nonprofit sector (Carroll and Buchholtz, 2015:474).

3. Negative aspects of business entity relationship with local community

Business entity relationship with local community may also have negative aspects. When business entity must adopt to changes in business environment some hard decisions has to be made. If these decisions are made without other stakeholders usually problems in relationship with local community arise. Labor cut offs because of outsourcing and offshoring are two most often forms which as a result have important negative impact on the local community. Fortunately, in last years there is a trend to open plants and start production called reshoring. Relocated production in states with cheaper labor costs has also imperfections such as increased transportation costs.

Nevertheless, when business entity is closing production plants or business in total this has strong negative impact on employees, local population, and local community as stakeholders. Reasons for closing production plants my be numerous. International competition, outdated technology, changes in corporate strategy, general economic situation, business consolidation are just some of them. If the business entity makes these decisions without stakeholders and taking in consideration social dimension, we may say that such behavior is not in accordance with CSR.

Whole process of closing production plant may be conducted in two ways that involve stakeholders. Activities may be taken before final decision and after when decision is already made. Before business entity decides to close production plant it may consider all available options such as diversification, new ownership structure which may or may not include employees (Carroll and Buchholtz, 2015:480). In several countries in European Union law defines that employees must be involved through their representatives in decision process regarding closing plant. They must also be involved in negotiations related to social program for employees (Carroll, 1984). Carol (1984) emphasizes that in a case of closing production plant as the only option certain actions must be taken:

- make an impact analysis on local community,
- inform employees and local community before plant closure,
- provide financial resources for employees,
- execute plant closure in several steps and
- provide help to local community to attract new investors.

Business entity which is aware of its impact on local community conducts these decisions on responsible way that includes all stakeholders. In that way business entity tries to minimize negative aspects of such decisions on employees and local community.

4. Methodology

Research sample consists of four business entities from food processing industry ranging from the small to medium and large sized entities according to criteria defined by the accounting law (OG 78/2015). Selected four business entities already implemented certain elements of CSR concept in their business activities.

Size of the research sample is determined by the type of research. Qualitative research demands smaller size of the research sample then quantitative research (Bedeković, 2011). Nevertheless, sample should be small but diverse. Therefore, business entities were from small to medium and large sized entities.

Food processing industry is selected for this research because this industry is important liaison between agricultural production which produces raw materials and chemical industry, transportation services and trade as distribution channel for final products. Gaži Pavelić (2015) points out that food processing industry is facing today with numerous changes. These changes are increasing lack of raw materials and their price growth on one hand and changes

in consumer habits which results with continues market pressure for final products price reduction on the other.

Primary data were collected by conducting in-depth interviews with eight employees from business entities regarding relationship with local community. According to McCracken (1988) this number is enough for qualitative research. In-depth interviews are appropriate because it enables respondents to clarify and elaborate their answers. We used face-to-face interviews to get open and honest answers without pressure because other employees are present.

Questionnaire was structured with open questions without offered answers to get relevant and complete answers. It was designed based on the questionnaire created for the large and medium sized business entities in research called CSR Index. Secondary data used in this research are from sustainability reports and other internal sources such as business policies, environmental policies etc.

The interviews took place in business entities facilities and lasted between 30 to 60 minutes depending on demanded explanations. Each interview was authorized from the relevant persons from business entities.

Data analysis was conducted after all data had been collected. It was iterative process of reading, discussing, and analyzing to gain relevant information related to relationship with local community. Analysis employed different procedures of categorization, integration, and iteration.

5. Research results

5.1. Podravka d.d.

Podravka d.d. is business entity which has implemented CSR concept and sustainable development considerations as the part of their business operations and growth. Therefore, relationship with local community as stakeholder is incorporated as a part of CSR concept.

This business entity is relevant not only on the national but also on the international level thus it must conduct responsible business activities respecting international standards, laws, and ethical behavior.

As already mentioned, CSR concept is an integral part of their identity and business activities. It is perceived as added value that helps in achieving competitive advantage on the market. Relationship with local community includes activities related to sponsorships and donations, long term partnerships with different stakeholders and corporate volunteering. Employees involved in our research pointed that benefits of CSR implementation are strong connection with local community and team building through corporate volunteering.

Positive aspects of relationship with local community includes programs for supporting local agricultural producers, program for integration of locally produced organic products in school menus, programs for children, educational and scientific programs, volunteering, cooperation with organizations of civil society, sponsorships, and donations.

Podravka d.d. developed numerous programs, social activities, and public happenings together with local community. Programs for local agricultural producers are one segment that must be emphasized. Through these programs local agricultural producers receive support in production development and have ensured sale for their products. Through manifestations which include Tomato days in Umag, Vegetable days in Koprivnica and Wheat days in Hlebine local producers are getting education and support which helps them to produce products that will satisfy criteria for becoming suppliers. Except education Podravka d.d. provides well organized purchase of raw materials, professional help, and payment of purchased raw materials according to contracts. All that is significant help to local producers,

which provides them stability and ensures conditions for sustainable development of local producers together with development of the local community. Continuous cooperation with family farms in segment of purchasing raw materials represents valuable initiative towards local producers as suppliers.

Organic agriculture is especially supported and encouraged. Together with local community Podravka d.d. has developed program for integration of locally produced organic products in school menus in all elementary and high schools in the City of Koprivnica.

Podravka d.d. has the Agricultural Development Service which conducts research to improve agricultural production. This service organizes educational workshops for local producers related to application of modern technologies, provide financial support, and ensure means for production meaning raw materials and repro material.

Total production of 10,678 tons of tomatoes processed in year 2016 at production plant in Umag is from contracted production from local producers in Istria. In the same year Podravka d.d. purchased from local producers in area around the city of Koprivnica 12,697 tons of wheat. Total value was 13.5 million Kuna and it was almost 92% of totally purchased wheat that year. Majority of purchased wheat was from contracted production from 150 family farms together with 400 small local producers (Podravka, 2017).

Beside programs for local agricultural producers there are activities in other segments that include programs for children, educational and scientific programs, volunteering, and cooperation with organizations of civil society.

One of long-lasting programs for children is Lino decathlon, which gather in finals best competitors from 24 schools. More than 24,500 pupils participated in final event. Throughout ten years this program organized by Podravka d.d. and Sportske Novosti became manifestation which celebrates optimism and winning spirit. During these ten years more than 220,000 children participated in Lino decathlon. Little bear Lino is very popular among the children and its character is used to promote healthy nutrition habits among them. Together with preschools and schools Podravka d.d. is sponsoring sport activities which help promoting healthy nutrition habits, drinking water and healthy beverages.

For several years Podravka d.d. is organizing international scientific conference "Znanje u fokusu" (eng. "Focus is on knowledge") which gathers more than 200 participants. The main goal of this conference is to involve stakeholders in process of enhancing innovations in local community.

Corporate volunteering is significant segment of relationship with local community. Employees are continuously encouraged to participate in this activity which develops additionally socially responsible behavior in the business entity but also among employees.

Podravka d.d. cooperates with numerous organizations of civil society. Their employees on regular basis donate blood during the working hours in the business entities' premises. For participating in this activity employees are rewarded with days of.

Products close to expiration date or with damaged packaging are donated to social stores which helps to socially endangered population. It also helps to decrease quantity of food which is throwed away. It is well known that we must change our behavior related to food and became more responsible because that is serious social, economic, and environmental problem on the global level.

Sponsorships and donations are regulated according to written rules and focused on programs related to children, young population, education, science, and those in need. Donated or/and sponsored activities and programs are followed through informal communication and reports.

Podravka d.d. often participate in humanitarian actions together with other business entities and it has partnerships with nonprofit organizations and associations.

Relationship with local community in this business entity has several segments that help in development of local community. Cooperation with local agricultural producers and family

farms is one of the most positive aspects of the relationship with local community. Sponsorships and donations are regulated formally, followed through reporting and in order with strategy and goals of the business entity. Special attention is given to children and those in need through numerous humanitarian organizations. Corporate volunteering is segment that deserves especial attention because it is rather rare in the Republic of Croatia.

Negative aspects of relationship with local community include labor cut off because of restructuring process. Caring for surplus workers is a continuation of the restructuring process, aimed at achieving optimization of costs and increasing operational efficacy to ensure the sustainability of the remaining work posts. The Management Board of Podravka passed a decision to implement the program to care for surplus workers with the payout of incentive severance packages. Surplus workers were cared for in a humane and socially sensitive way. Employees which were part of this program received a payment in amount of HRK 5000 for each year that they worked in Podravka. This amount is higher than the amount stipulated by law.

5.2. Kraš d.d.

Kraš d.d. is successful business entity which has business operations throughout the region according to the highest standards. Corporate philanthropy is incorporated in this business entity through partnership with associations and organizations. Management of this business entity strongly believe that their business operations must be according to principles based on responsible and ethical behavior to develop positive relationships with all involved stakeholders.

Numerous humanitarian actions are being supported through sponsorships and donations. Socially responsible behavior is part of business policy for the long period of time. Together with single donations to specific programs Kraš d.d. is developing continuous cooperation with different associations and organizations. Their priority is related to organizations and programs developed for youngest population. Through donations and sponsorships this business entity is supporting educational institutions, cultural and sport events, hospitals, numerous associations, and individuals. Kraš d.d. has written book of rules which determine how should donations and sponsorships be validated. Selected organizations and associations must be in accordance with strategy and business entity' values. Humanitarian associations, sport and cultural manifestations together with activities that are helping children have priority. Partnership relationship is developed with The Humanitarian Foundation for the Children of the Republic of Croatia, The Association of Retired Former Employees and Association of Homeland War Veterans. Humanitarian donations are given in cases of natural disasters such as floods and fires during the summer in coastal areas.

The Association of Retired Former Employees has more than three hundred members. It organizes different programs for their members such as lectures, excursions and providing help to those members that have health problems. Kraš d.d. is organizing every year an event called "Generations Meeting" for former retired employees.

Collaboration with educational institutions has several segments. Every year students from high schools and faculties spend their summer trainee program within the business entity. Students from whole region pay a visit to the company where expert tour guides are organized for them. During their visit they became acquainted with production process in product plants. For elementary school pupils and high school students is developed visiting program named "A Trip to the Chocolate Factory". Through this program they gain knowledge about production process which starts from cocoa to chocolate on a fun and amusing way.

Second important segment is promotion of sustainable development principles among our young generations. Kraš d.d. built Eco park Krašograd in Pisarovina where all facilities have

ecological certificate. Everything is built from natural materials and agricultural production on the estate is in accordance with standards for ecological production. This eco park offers different types of excursions, events, and educational programs. Every year almost ten thousand children visit and spend time in the Eco park.

Results of selected donations and sponsorships are followed by reports and informal communication. They do not participate with other business entities in humanitarian actions.

Kraš d.d. is business entity that supports local producers. Suppliers of raw material from the Republic of Croatia are represented in high percentage of 60%. In segment of packaging share of domestic suppliers is even higher and it is 95%. Suppliers are often from smaller local communities which depend on these business entities in terms of employment, development, and quality of life for their inhabitants.

All activities have positive impact on relationship with local community. The great majority of activities are focused on vulnerable members of the society such as elderly and children. Results are followed and used as tool for improvement of selection process in future.

Kraš d.d. did not have in the past years significant labor cut offs and they were not closing production plants. Therefore, one could say that there were no negative aspects in the relationship with local community.

5.3. Marinada d.o.o.

This business entity does not have formalized system for selection of projects, programs, institutions, or areas that will be supported through donations. Nevertheless, donations in cash and products are part of their business activity. Selection of donations is not guided with their mission statement, vision, and strategy. The majority is donated to preschools and spot organizations. Partnership relationship is developed with Croatian Red Cross. Results of donated organizations and projects are not followed through reports or informal communication. Their employees are not part of volunteering program during the working hours.

All participants in our research are aware of CSR concept and regard that it is not enough represented in this business entity. It is basically present in strategy but there is not further implementation in other documents and procedures. They pointed out that main problem is lack of specific goals with programs and follow up through measurement and evaluation as part of the system.

Their opinion is that stakeholder analysis is first step that should be taken. After that process of selection programs and institutions for sponsorships and donations would be more transparent and connected with strategy. Only like that positive aspects of relationship with local community may be gained through improvement of life conditions and general contentment of inhabitants.

Marinada d.o.o. is medium sized business entity which puts emphasize on economic responsibilities as part of CSR concept. That is expected because problems which are food processing industry facing are strongly influencing medium sized business entities. They do not have strong negotiating power in the market such as large sized business entities. Therefore, pressure on prices of raw materials and final products are more severe.

Relationship with local community is within the limits that are usual for small and medium sized business entities. Priority areas are not defined but we may say that sport, programs for children and humanitarian institutions are those.

There is not any significant negative aspect of the relationship with local community. The major problem is lack of wide range of different activities.

One of the problems in small and medium sized business entities is lack of at least one employee in charge for CSR activities. The most common problem is that selection process is

not formalized, and management is doing that partially based on current information which is not enough for building strong positive relationship with local community.

5.4. Agistar d.o.o.

Agristar d.o.o. is established in year 1995 as family business in Višnjevac which is suburb near the town Osijek. At the beginning it had only two employees. Today it is the biggest exporter of medicinal plants in the Republic of Croatia. Basic activity of Agristar d.o.o. is tea and coffee processing.

Agristar d.o.o. dose not have book of rules which determines who will get donation, but they give donations in cash and products to different organizations. These organizations include social stores, humanitarian associations, individuals, sport, educational and religious institutions. All donations are approved by the management.

They have partnership relations with Caritas and faculty of Economics in Osijek. Long term relationship is with Lions club Osijek in different humanitarian activities together with other business entities. Results of supported programs and activities are followed through reports and informal communication. Their employees are not involved in volunteering activities during their working hours.

Agristar d.o.o. is small sized business entity and relationship with local community is focused on donations and sponsorships. Nevertheless, their activity in this segment is beyond what is common for small sized business entities. In future it would be useful to formalize process of selecting programs and activities which will receive donation.

Negative aspects are not present because they did not have any labor cut offs or closing production plants. Same as in case of medium sized business entity, the main problem is lack of diverse activities.

6. Discussion

Food processing industry is facing numerous pressures related to raw materials and final products prices. Therefore, all four business entities which participated in research focus on economic responsibilities. This is more present at small and medium sized business entities Marinada d.o.o. and Agristar d.o.o.

Core values in Podravka d.d. are excellence, commitment to high quality and continuous innovations together with development of long-term relationships with all involved stakeholders. Local community as stakeholder is perceived as very important. Therefore, relationship is built through numerous activities which include sponsorships, donations, corporate volunteering, organization of scientific conference and cooperation with local producers of raw materials. Negative aspects are related to labor cut off which is handled in a way that is acceptable for the business entity and employees together with local community.

Second business entity in category of large sized has similar activities in relationship with local community with an exception of corporate volunteering. Their focus is on programs intended for children and vulnerable members of the society. Special attention is given to cooperation with domestic suppliers.

Marinada d.o.o. has in strategic documents goals related to CSR but that is pretty much all. Nothing is further elaborated in tactical plans with specific goals which would raise level of knowledge and importance of CSR among employees. Even activities that are part of CSR concept are not perceived in that way. Similar situation is in Agristar d.o.o. where ethical business behavior and corporate philanthropy is regarded as way of doing business and not part of CSR concept. In all four business entities exists strong opinion among interviewed managers that CSR implementation brings benefits to all included stakeholders. Nevertheless,

CSR implementation is on higher level in large sized business entities and it is part of strategic commitment. Therefore, sponsorships and donations are part of strategic approach and results are monitored through formal and informal channels. There is organizational problem in small and medium sized business entities related to department or person in charge of CSR or sustainable development.

Relationship with local community is present in all four business entities. Two large sized business entities have wider range of activities and more different types of partnerships. In small and medium sized business entities relationship with local community is mainly through sponsorships and donations. Table 1 shows differences between these four business entities.

Table 1: Positive and negative aspects – research results

	Podravka	Kraš	Marinada	Agristar
Positive aspects				
Programs for supporting local producers	x	x		
Program for integration of locally produced organic products in school menus	x			
Programs for children	x	x		
Educational and scientific programs	x	x		
Volunteering	x			
Cooperation with organizations of civil society	x	x		
Sponsorships	x	x	x	x
Donations	x	x	x	x
Negative aspects				
Labor cut off	x			

Source: authors

Relationship with local community is mainly positive and range of activities differ depending on the size of business entity. Volunteering and participating in projects significant for local community is still not represented sufficiently. These two activities should be more encouraged among employees. Through these activities relationship with local community would be raised on a new level and gain additional positive dimension.

7. Concluding remarks: future research suggestions

The CSR is very challenging issue since it has multiple effect on the local community – economical, ecological, and social, as the results of the research conducted suggest. Thus, the research of CSR and its contribution to local development should continue in order to gain more deeper understanding of various CSR practices, as well as the relationship between corporations and (local) society. The various CSR programs show that the very nature of CSR is related to both economic and non-economics factors, as well as it is matter of both business entity culture and managerial skills.

The future research avenues could include comparative studies on different strategies adopted by firms related to CSR in different industries as well as to investigate specific CSR projects and programs that contribute to improvement of local quality of life in both economic and non-economic terms.

Since the success of the CSR programs depends upon management, the research could be also oriented towards the skills that managers should have in order to better conduct and promote CSR activities.

Also, it would be useful to investigate what does local population thinks of the CSR activities of specific firms and how these activities influence their behavior as customers.

Multidisciplinary approach to the CSR research would be recommended in order to capture the full potential of the impact the CSR can have on local community development. The deepening of the understanding of CSR would certainly reinforce the general appreciation of CSR.

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COMPETITIVENESS AS A DETERMINANT OF MARKET SUCCESS

ABSTRACT

The competitiveness presupposes a constant process of competition in the market space. It observes through a micro and macroeconomic prism and quantitative and qualitative indicators. It is the determinant of entrepreneurial, economic and social success measured by superior business results.
The measure of superiority of the result obtained depends on the environment, time and subjects of the observation. A superior result is generally considered as a superior financial performance. However, market success must also be seen through the relationship with consumers as a prerequisite for demand and thus market activity. An interactive relationship with consumers ensures a sustainable competitive advantage in a turbulent environment. The various measures of success reflect the interdisciplinarity of competitive theory, the interdependence of various competitive factors and the extent of their observation. The aim of this study is to investigate the perceptions of the management of growing enterprises of different national economies (Croatia, Bosnia and Herzegovina, Slovenia) on the indicators of competitiveness of enterprises. For this purpose a survey of the management of growing companies in Croatia, Bosnia and Herzegovina and Slovenia was conducted. Observing the perception of competitiveness in different conditions of the macroenvironment, we gained insight into the impact of the environment on entrepreneurial attitudes. It has been noted that cultural and historical determinants of the entrepreneurial context greatly influence the perception of competitiveness and related management activities.

Key words: *competitiveness, superior results, quantitative indicators and qualitative indicators of competitiveness.*

1. Introduction

The competitiveness is considered a continuous process of the market competition. It is a precondition for survival and determinants of company success (Porter, 2008:21), while the competitive advantage of a company presupposes a superior business result (Hunt and Morgan, 1997:78). Different companies in different time periods and different terms of the macroenvironment may use different indicators of superior performance; financial and non-financial, quantitative and qualitative (Hunt, 2001:532-533). However, competitive success is generally evaluated by financial performance as a resource base of market activity (Porter, 1981:612; Porter, 1996:63; Dyer and Singh, 1998:660; Hunt, 2001:532). In today's turbulent

business environment, in order to maintain a satisfactory financial base, it is necessary to develop a relationship with all stakeholders in the microenvironment, and especially with the consumer as a prerequisite for revenue. Therefore, competitiveness should also be viewed through the ability to interact, solve problems and deliver specific value to the target market segment (Hoffman, 2000:8-9; Kotler et al., 2006:421; Thompson, Strickland and Gamble, 2008:126; Kotler. Keller and Martinovic, 2014:11). However, the immeasurable dimension of competitiveness is often overlooked.

The purpose of this paper is to raise awareness of the need to establish a qualitative framework for competitive action and to use qualitative competitiveness indicators. In line with the research intent, the need to examine the macro prerequisites of qualitative perception of competitiveness was observed.

The research is based on the assumption that the stakeholders of more competitive economies, which are highly positioned on the Global Competitiveness Index (GCI) rankings of the largest international research project used to measure the competitiveness of national economies, have developed awareness of the need for qualitative competitiveness assessments and accordingly focus more on building the trust and satisfaction as a precondition for sustainable competitive advantage. Guided by the above assumption, the stakeholders of three national economies with differently assessed competitiveness indicators (Bosnia and Herzegovina, Croatia and Slovenia) were examined. In this research the focus is on growing companies as examples of successful business.

2. Theoretical Basis of Competitiveness and Competitive Advantage

Competitiveness implies an imbalance in market conditions, which results in the need to compete and stand out with superior financial results. The pursuit of superiority presupposes market inequality. However, even in spite of the ongoing struggle for market dominance, there are circumstances that equalize competitors and their positions. If such situation dominates, it may appear that the market is balanced, seemingly eliminating the competitive threat. On the contrary, a small detachment of homogeneous market processes leads to a rebalancing and a struggle for market space (Hunt and Morgan, 1997:79-80; Krizner, 2008:3; Boudreaux, 1994:56).

Competitiveness was identified with market prices for a long time. Later, the notion of competitiveness was linked to product quality and sales function. Yet, it is mostly observed within the static patterns of organizational and market structures, and equilibrium conditions. Schumpeter is among of the first who points out that in the conditions of capitalism the competitiveness should be viewed through the variable prism. Changing business conditions require a flexible innovative response and multidimensional patterns of observing market performance (Schumpeter, 1976:182).

Competitiveness theory has been developed on the interdisciplinary scientific basis. It is based on a general economic, marketing, management and organizational approach. Austrian School of Economics, evolutionary economic theory, heterogeneous demand theory, differentiated competitive advantage theory, economics of industrial organizations, institutional economics and economic sociology are some of the theoretical law on which it was developed (Hunt, 2001:524).

The evolutionary theory of economic observes the competitiveness as a consequence of non-equilibrium processes of the market caused by the actions of businesses with heterogeneous competencies. Austrian economic theorists view the competitiveness as a market process driven by knowledge and discovery. Theory of heterogeneous explores the competitiveness based on the diverse preferences of consumers who meet specific offers as conditions of competitiveness and competitive advantage. The theory of differentiated competitive opportunity transforms the constant stimulation and adaptation of dynamic processes in the market that invite for differentiation. The economics of industrial organizations emphasize the superior financial performance as the goal of any business entity whose realization depends on

competition, suppliers and consumers located in a particular market space. The resource theory considers competitiveness as the tangible and intangible resources of the organization, while the competency theory emphasizes the organizational learning process as a necessary response to the unbalanced processes of the market. Institutional economics is a theoretical course which identifies the organizational resources with the capabilities of the organization as the basis of competitiveness. Whereas sociology viewed in an economic context considers relations in society an economic resource and an instrument of competitiveness (Hunt, 2001:525-527; Wang, 2014:33-39; Conner, 1991; Hunt and Morgan, 1997).

In accordance with an interdisciplinary basis, various theoretical approaches to observing competitive advantage have been developed. Thus, different indicators of competitive advantage were developed.

According to the market concept of competitiveness, the performance of the company is conditioned by the structure and competitive dynamics of the industry. The strategic position of an enterprise in the industry is determined by the unique set of activities or the way they are performed. A series of differentiated activities creates superior value chain that emphasizes provider in the market and creates its own market niche (Porter, 1996:66-70). Resource-based theory of competitive advantage focuses on the characteristics of the organizations that represent prerequisite for successful financial performance (Conner, 1991: 121). Many theorists such as Evans (2003 cited in Wang, 2014:37) points out that the value of the material resources of the organization over time is reduced, and immaterial increases and that all other organizational resources can imitate other excluding knowledge. In today's time of accelerated technological, economic and social progress, knowledge plays a key role in maintaining and enhancing the competitive advantage of enterprises. The ability to acquire and apply the knowledge necessary to deliver competitive values is considered as a key precondition for success (Prahalad and Hamel, 1990:81). The interaction of material and intangible resources creates specific organizational processes that represent an organization's ability to competitively utilize the resource base (Amit and Shoemaker, 1993 cited in Wang, 2014:37). Dyer and Singh (1998 cited in Wang, 2014:38) among the first to have pointed out that resources necessary for gaining competitive advantage have not to be related to the organization, and as a leading competitive position assumed organizational cooperation and the creation of common resources that are independently unachievable and that difficult to imitate. McGrath claims that a leading competitive position assumes a constant change in operational and strategic activities. Simultaneously competing in multiple markets and constantly changing strategic goals are the characteristics of flexible organizational structures that are imperative for successful market operations in today's turbulent conditions (McGrath, 2013:1-10).

3. Models for Observing the Competitive Advantage of Enterprises

Strategies and the derived models of sustainable competitive advantage are based on analyzes of the strengths and weaknesses presented by the elements of the microenvironment and the opportunities and threats of the macroenvironment since the 1960s (Porter, 1980, 1985; Hofer and Schendel, 1978; Penrose, 1985; Stinchcombe, 1965 cited in Barney, 1991:99). Learned, Christensen, Andrews and Guth had thought that by analyzing the strengths and weaknesses of an organization, the personal values of executors of strategic activities, opportunities and threats in the environment, and social norms, competitively effective policies and goals for strategic action could be set. Based on their thinking, they developed the LCAG model that expressed the need to shape the internal factors of the organization according to the perceived market demands. Also, they suggested consistency tests to verify the consistency of the above factors of the LCAG strategic framework. They considered that the leading competitive position was dependent on the consistency and alignment of the LCAG elements. The strategic concept described arose from the need for managers to master a changing business environment. The analytically oriented LCAG approach has encouraged a gradual, process-driven

development of the strategy. In the late 1960s, the experience curve model was developed that enabled the analysis of product price movements with respect to their market share. The Boston Consulting Group (BCG) matrix was created on the strategic basis of the experience curve, which provides the opportunity to analyze the products portfolio of the company considering the relative market share of a particular product and the growth potential of the market in which the product is located. The BCG model and the experience curve lie in the proven link between profitability and market share and help to make decisions about the allocation of resources within an organization. The McKinsey matrix, known as the General Electric (GE) matrix, was developed to provide an analysis of the industry's attractiveness and business strengths in the current market environment. Subsequently, the product lifecycle model, the PIMS strategic planning program, and other strategic planning and forecasting models were developed. By development of a product life cycle model analyzes the possibility of generating sales revenue after a certain period of market availability of the product (Porter, 1983:172-175). The PIMS program is based on a longitudinal survey begun in the mid-1960s that covers the analysis of the performance of strategic business units of thousands of enterprises in different industries. Collecting, processing, and archiving large amounts of data represents the useful tool for assessing market opportunities, business portfolios, strategies, and business performance. In this way, the PIMS model helps in selecting an effective strategic approach in specific market conditions (Inc., 2018).

In order to increase the operational effectiveness of strategic activities, it was determined that these strategic planning models should be placed in the context of a competitive industry-specific environment. The models described are viewed through the prism of competition, relying only on one or more aspects of industrial structure. They were mainly focused on the characteristics of the business environment rather than the specifics of the competitive activity SCP model and the Porter model were developed. The SCP model analyzes the impact of industry structure (S) on enterprise conduct (C) and performance (P). The observed correlation of industry, behavior and firm performance imposes the need to adapt the strategy to the structure of the industry in order to achieve satisfactory market performance and competitive market position (Wang, 2014:34). Porter's model reflects the correlation between company strategy, competitive structure and industry profitability. It is based on the premise that a competitive strategy should come from analyzing and understanding the conditions of competition in a particular industry. The framework of the analysis is based on 5 factors: suppliers, customers, competitors, potential competitors and products / services that are in the role of a substitute. According to the observed factors, it is called the *5 competitive forces* model. This framework recognized the bargaining power of suppliers and customers, the threat of current and potential competitors, and the substitute, competitive supply in a particular industry (Porter, 1983:175-177; Porter, 2008:23-25).

The models described are based on quantitative and qualitative indicators of competitiveness, viewed from the aspect of the organization and its micro and macro environment.

Separated internal and external competitive models have been developed from traditional strategic analysis models of strengths, weaknesses, opportunities and threats. Internal competitiveness models are based on organizational resources as a prerequisite for achieving competitive advantage and derived from an analysis of organizational strengths and weaknesses (Barney, 1991:99). The resource-based theory of competitive advantage resulted from microenvironmental analysis and based on internal competitive models is the focus of many strategic management theories (Connor, 1991:142-143). The resource-based theory of competitive advantage obtained from microenvironmental analysis and of a particular industry. Due to the perceived need to observe the specific conditions of a particular industry, the based on internal competitive models is the focus of many strategic management theories (Connor, 1991:142-143), while external models are based on the analysis of elements of the macroenvironment, especially markets and industry, as fundamental factors of competitiveness (Barney, 1991:100).

4. Quantitative Indicators of Competitiveness

Competitiveness is mainly viewed through financial indicators, and synonymous with competitive success is superior financial performance (Porter, 1981:612; Porter, 1996:63; Dyer and Singh, 1998:660; Hunt, 2001:532). In doing so, *superior* financial performance implies financial superiority over the reference group. Object of comparison can be Industrial Average, the average of the stock market or own financial outcome at a definite time, while the financial result can be measured by profit, earnings per share, return on assets and capital. Different companies in different time periods and different conditions of the macro environment can use different financial performance indicators (Hunt, 2001:532-533).

The analysis of financial statements is the most common type of the analytical evaluations of the company's business performance both in the past and present and in the future. In combination with other analytical methods, it serves to owners and investors in making decisions about future status, business development and investments.

Depending on the purpose of the analysis, financial indicators are formed by placing different positions from the balance sheet and profit and thus the results obtained in the form of financial indicators are compared over time within the company, relative to the industry average or sector in which the company operates.

Financial indicators, depending on the complexity of the analysis and the aim sought to be, are formed from a number of basic to several tenths. Namely, the financial analysis of the companies can be performed for the several reasons, such as assessment of value of the equity securities, credit risk assessment, conducting due diligence related to the acquisition or evaluation of subsidiary performance. Financial ratios may be useful in assessing a company's performance. Essentially, the analyst turns the data into financial metrics which help to make the decisions. Decisions can be tied to a short term or strategic objectives for the above reasons. Analysts want to know the answers to the questions such as: How well has the company performed, compared to its past performance and its competitors? How will be the financial result in the future? Based on trend of financial statements and your future business expectations, what is the value of the company or the securities it issues (Henry, Robinson and Greuning, 2019)?

For the purpose of this paper, the questionnaire was formed on the basis of several basic ratios, except for the investment indicators. So, the answers were offered to managers, within the framework of the question of the perception of quantitative indicators as important for the competitiveness of fast-growing enterprises, related to the following groups (Šarlija, 2013; Junus, 2010):

Indicators				
Liquidity ratios	Quick ratio	Cash ratio	Current liquidity ratios	Financial stability
Debts Ratios	Debt ratio	Self financing ratio	Level of coverage ratio	
Activity Ratios	Turnover ratio of total assets	Turnover ratio of current assets	Turnover ratio of inventories	Turnover ratio of receivables
Efficiency Ratios	Overall business efficiency	Sales efficiency	Financing efficiency	Efficiency of extraordinary activities
Profitability Ratios	Gross margin	Net profit margin	Return on assets (ROA)	Return on equity (ROE)

Liquidity ratios express how well an entity is able to meet its short-term liabilities, i.e. how quickly assets can be converted into cash. The calculation of liquidity ratios is performed using the following formulas (Šarlija, 2013; Junus, 2010):

Current liquidity ratio	$\dfrac{\text{current assets}}{\text{current liabilities}}$	>1,5
Quick ratio	$\dfrac{\text{current assets - inventories}}{\text{total current liabilities}}$	≥ 1
Cash ratio	$\dfrac{\text{money}}{\text{current liabilities}}$	≥ 1
Financial stability ratio	$\dfrac{\text{fixed assets}}{\text{equity + long-term liabilities}}$	$= 1$

Debt ratios analyzed the structure of sources of funds from which the company financed. The calculation is made on the basis of a balance sheet with the addition of coverage of financing costs - the amount of interest. The measure of *good* or *bad* financing is not specified, but the amount of profit made with existing sources of capital, whether own or other, is analyzed (Šarlija, 2013; Junus, 2010).

Debt ratios calculation:

Debt ratio	$\dfrac{\text{total liabilities}}{\text{total assets}}$
Self-financing ratio	$\dfrac{\text{equity}}{\text{total assets}}$
Level of coverage I	$\dfrac{\text{equity X 100}}{\text{fixed assets}}$
Financial leverage ratio	$\dfrac{\text{total assets}}{\text{equity}}$

The leverage ratio is the opposite to coefficient of own funding. It shows how much of the total assets are backed with equity. A higher ratio means a greater proportion of debt in liabilities.

Activity ratios measure the effectiveness of managing certain activities, and in particular the efficiency in managing certain assets such as the turnover of total assets, current assets, receivables or inventories. The calculation of these indicators is done on the basis of data from the balance sheet and income statement (Šarlija, 2013; Junus, 2010).

Company activity also affects on the liquidity, especially in net business cycle indicators calculated from the three activity indicators, but also in others that include inventories and current assets.

Total assets turnover ratio	$\dfrac{\text{total revenue}}{\text{assets}}$
Current assets turnover ratio	$\dfrac{\text{total revenue}}{\text{current assets}}$
Inventory turnover ratio	$\dfrac{\text{sales income}}{\text{total inventory}}$
Turnover ratio of receivables	$\dfrac{\text{sales income}}{\text{receivables}}$

All activity indicators should be within the industry average. Any major deviation indicates a possible problem in the business of the company.

Efficiency ratios are calculated on the basis of the income statement. These indicators should be as high as possible as a result of the activities of the company which has generated higher profits and reduced costs from individual activities. They show the ratio of revenue to expenditure and how much revenue is generated per unit of expenditure. If the coefficient is less than 1, the enterprise reports a loss (Šarlija, 2013; Junus, 2010).

Effectiveness of the overall business	$\dfrac{\text{total income}}{\text{total expenditures}}$
Effectiveness of sales	$\dfrac{\text{turnover (business activities)}}{\text{sales expenses (business activities)}}$
Effectiveness of financing	$\dfrac{\text{financial revenue}}{\text{financial expenses}}$
Effectiveness of extraordinary activities	$\dfrac{\text{revenues from extraordinary activities}}{\text{expenditure on extraordinary activities}}$

Profitability ratios are considered to be one of the most important elements in analyzing the overall business of a company. Common ratios used are: gross and net profit margins, return on assets (ROA) and return on equity (ROE). These indicators measure the ability of an enterprise to generate a certain level of profit relative to revenue, assets or equity (Šarlija, 2013; Junus, 2010).

Gross profit margin	$\dfrac{\text{gross profit}}{\text{total revenue}}$
Net profit margin	$\dfrac{\text{net profit}}{\text{total revenue}}$
Return on Assets (ROA)	$\dfrac{\text{profit after tax}}{\text{total assets}}$
Return on Equity (ROE)	$\dfrac{\text{profit after tax}}{\text{own equity}}$

5. Qualitative Indicators of Competitiveness

The traditional approach to competitiveness is tied to long-term market leadership. According to the traditional view of competitiveness, a firm achieves a sustainable competitive advantage when the target market segment permanently prefers its offering (Thompson, Strickland & Gamble, 2008:7).

Measuring business results is the first step in building a long-lasting competitive business. Yet, at the same time, the business success not estimated the measure of profitability and market share than the customer satisfaction and loyalty. In this way, the market success observed in dependence on the demand drivers, a precondition for successful market operation (Day and Wensley, 1988 cited in Hoffman, 2000:7). The concept of sustainable competitive advantage in today's marketing concept of business is viewed in relation to the concept of value, market orientation and relationship marketing (Hoffman, 2000:8-9).

Frequently, a sustainable competitive advantage is identified with novelty, priority. The first entrepreneurs have the opportunity to gain more market share and take advantage of economies of scale. As a result, they have an advantage in managing the costs. They are not competitively endangered and can choose the type and scope of collaborative relationships as well as target market segments. By constant interaction with selected market stakeholders can improve market offer to maintain a leading market position (Hisrich, Peters and Shepard, 2011:471).

The essence of a differentiation strategy is to develop a unique offering that meets the needs and even exceeds consumer expectations. The goal is to provide the uniqueness the consumer wants (Kotler et al., 2006:421). The uniqueness assumes a specific desired value. The success of differentiation depends on the customer's perception of the superior value of the offer (Thompson, Strickland, & Gamble, 2008: 126). The value is defined as the sum of perceived tangible and intangible benefits in relation to the realized cost of the consumer (Kotler, Keller & Martinović, 2014:11). A differentiation strategy, along with occupying a larger part of the market, enables defining the premium price and achieving a loyal relationship with consumers.

Alderson (1965 cited in Hoffman, 2000:5) is one of the first theorists to point out the importance of differentiation for successful business. He believed that the successful strategy of differentiation can be implemented through low prices, promotional messages, improving the supply and innovation. But in today's turbulent environment, much more than low prices and attractive promotional messages are needed to maintain consumer attention and create a long-term relationship. Strategic planning requires a continuous innovative focus on the specific desires and related expectations of consumers (Hoffman, 2000:5). The hyper-productive market is constantly pushing the boundaries of consumer expectations with its offer. If the provider succeeds in exceeding consumer expectations it creates a unique competitive advantage (Kotler et al., 2006:421). It is certainly important to remember that the provision of differentiated value can be established at any stage of the spending process. The provider can be distinguished by its unique value already in the process of realizing the need for a particular product or service, and not exclusively when using a differentiated offer (MacMillan and McGrath, 1997:3-4). Hall and Henderson emphasize the need to possess the unique characteristics of an organization and consumer relationships in order to achieve a sustainable competitive advantage in business (Hoffman, 2000:5). Today, it is only through an interactive relationship with the consumers that their satisfaction and loyalty can be achieved, and thus a competitive advantage. Relationships are the biggest competitive force. Strong consumer relationships and their interaction presupposes an interdependent market community that is difficult for competitors to take on. A competitive offer implies the experience, understanding and solution of a consumer's problems. Each product feature can be easily imitated, every service standardized and every business model adopted. In order to achieve a unique advantage

in the market it is necessary to provide a specific experience consumption, to offer a solution to the problem and thus by experiences create a relationship satisfaction (McGrath, 2013:8-9). The unique meaning and experience of the offer are prerequisites for competitive advantage (Kotler et al, 2006:9). The unique meaning and experience of the offer are prerequisites for competitive advantage (Kotler et al, 2006:9). In the context of uniqueness, the competitive advantage assumes the market advantage over the competition which is achieved by providing a unique value which gives consumers greater value than competitive value (Kotler et al., 2006:421).

Coyne (1986 cited in Hoffman, 2000:6) links sustainable competitiveness with a unique offering that is based on a unique resource base. He considers that the presumption of creating a single market offers the identification of market failures which are an opportunity for differentiation and resources to them based offers. In doing so, he argued that an internal strategic approach based on the organization's unique resources is the foundation of sustainable competitiveness. But in order for unique resources to be identified, developed and utilized, an external strategic approach focused on competition and market opportunities and threats is needed (Hoffman, 2000:6).

6. National Competitiveness Framework

National competitiveness has become the main interest of governing bodies and the focus of observation of macroeconomic theorists. The concept of national competitiveness assumes great public importance 1980s when the United States expressed concern about economic growth and the development of Japan. At that time, competitiveness was identified with low labor costs and economies of scale. In the context of the Japanese threat at the time, it was thought that strengthening the competitive advantage of one economy caused the other economies to weaken. Over time they developed different understandings of competitiveness observed through the prism of the macroeconomic. Some theorists competitiveness identified with foreign direct investment, exports and employment levels within certain economies. Other theorists observe the competitiveness through the foreign trade, national currency exchange rates, labor costs, wages, and the state budget balance. There is not generally accepted approach to observing and fostering the national competitiveness. These differences in the observation of the concept of competitiveness of national economies make it difficult to develop a single observation framework and thus prevent the development of effective economic policies to foster competitiveness (Delgado et al., 2012:6). However, the competition is most often associated with productivity and innovation and it is seen as a precondition for economic growth and development (EBRD, 2014:30-38; Porter, 1990:75-78; Atkinson, 2013:2-6; Crépon, Duguet and Mairesse, 1998:1-15; WEF, 2017; OECD, 2018; GII, 2017).

The World Economic Forum (WEF) points out that national competitiveness is determined by the set of diverse micro and macroeconomic factors on which the productivity of the national economy depends. The level of productivity affects the rate of return on investments that are a key determinant of growth. It was found that a more competitive economy recorded more and faster growth rates (WEF, 2016: 35).

The macroenvironment of entrepreneurial activity is a key factor in productivity as it affects the desirability and ability to pursue innovative ventures. It involves a variety of factors and can be operationalized using a number of elements. In doing so, infrastructure, the educational structure of human capital and the intense international competitive threat have proven to be key preconditions for productivity and competitiveness. They are largely determined by the economic policies of each country (EBRD, 2014:36-37; Covin and Slevin, 1991:20). Economic policy pursued by state and economic institutions not only influences current economic and

social variables but also the expectations of future economic events and thus the form of entrepreneurial activities and other activities of economic stakeholders (Blanchard, 2005:514).

From the very beginning of the development of entrepreneurial theory, the environment has been regarded as the determinant of entrepreneurial activity (Covin and Slevin, 1991:11). Numerous studies have proven that the macroenvironment has a decisive influence on the existence, form and efficiency of entrepreneurial processes (Miller, 1983:771-772; Khandwalla, 1987:44-45). Observing the impact of the environment on the individual level of entrepreneurship, it has been observed that the behavior of individuals is influenced by individual characteristics, but also by factors of the wider entrepreneurial context (de Jong, Parker, Wennekers, and Wu, 2011:7-8; de Jong and Wennekers, 2008:11-17; Covin and Slevin, 1991:9-11).

Covin and Slevin (1991:11) have demonstrated how environmental conditions can influence entrepreneurs' perceptions and foster an entrepreneurial attitude. The Global Entrepreneurship Monitor (GEM) by research project provides a link between contextual and individual entrepreneurship drivers. Individuals' perceptions of entrepreneurial opportunities and capacity to act have been found to correlate with environmental conditions. In doing so, the environment is defined by cultural, historical, political and economic factors modeled on the 12 pillars of competitiveness where WEF has classified the competitiveness indicators of the national economies (Bosma et al, 2017:8-10).

Determining and understanding the factors of competitiveness and growth of the economy is crucial to the overall social and economic development. For more than four decades, the WEF has been measuring the competitiveness of economies through the Global Competitiveness Index (GCI). Within the GCI model, 114 indicators of productivity, growth and development are observed through the macro-framework of national economies. The indicators were grouped into 12 pillars: 1. institutions, 2. infrastructure, 3. macroeconomic environment, 4. health and primary education, 5. higher education and training, 6. commodity market efficiency, 7. labor market efficiency, 8. development financial market, 9. technological readiness, 10. market size, 11. business sophistication, 12. innovation. The results of annual measurements are presented in reports of global competitiveness and help policy makers identify opportunities and threats to the environment and the strengths on which they can base growth strategies (WEF, 2016: 5; WEF, 2017:1). The main objective of the project is to measure the competitiveness of national economies whereby productivity is viewed as a major driver of economic growth and development (WEF, 2017:353).

The assessing the macro determinants of the entrepreneurial activity should not neglect the importance of microenvironmental factors that directly affect the ability to start and succeed an entrepreneurial venture. It is the suppliers, intermediaries, competitors, customers and the general public who are often associated with close-industrial context of entrepreneurial activity. Its competitiveness and competitive success depends on their direct interaction with the company (Covin and Slevin, 1991:9-11; Kotler et al., 2006:87-88; Antoncic and Hisrich, 2004:529).

7. Research on management perceptions of the competitiveness as an indicator of market success

The study of management perceptions of competitiveness as an indicator of entrepreneurial success was conducted through a questionnaire as the most commonly used measuring instrument in the social sciences. The questionnaire included 19 questions, 16 closed and 3 open-ended questions. The open-ended questions examined management's opinion on the competitiveness, competitive advantage and sustainable competitive success. The first six questions referred to the national framework of entrepreneurial activity, demographic characteristics such as company size, industry and ownership and competitive conditions in the industry. In doing so, the guidelines of the Global Entrepreneurship Monitor (GEM)

methodology framework were used. By other questions examined management's perceptions of the observation framework and competitiveness indicators.

The management of 98 growing companies in Croatia, Slovenia and Bosnia and Herzegovina was examined. 32 companies were located within the entrepreneurial framework of Croatia, 37 of Bosnia and Herzegovina, and 29 of Slovenia. The basic criteria for selecting a company in the sample were: geographical location and entrepreneurial growth. The definition of growth criteria used the definition of the Organization for Economic Co-operation and Development (OECD). It specifically classifies high- and mid-growth companies when looking at business development. Both groups of growing companies were considered in this study. According to the OECD definition, high-growth enterprises are enterprises with "an average annual growth in the number of employees and turnover of more than 20% per year, over a period of three years, and with 10 or more employees at the beginning of the observation" (OECD, 2008:61), while medium-growth enterprises are considered to be enterprises with realized turnover growth and employees from 10% to 20% (Eurostat, 2019). During the selection of the companies for the research sample, turnover was used as an indicator of growth. Using growth and geographical location as a sampling criterion, it is enabled to examine the impact of the national framework on the perception and potential activities of the managers of growing enterprises as examples of good entrepreneurial practice.

7.1. Croatia

The sample of the Croatian national framework consisted mainly of the small and medium-sized enterprises with private ownership of the ICT sector, finance, professional and other services (76.2%). Then the largest were the companies in the retail / wholesale sector (13.6%). The surveyed managers perceived the high competitiveness of their market space (63.6%), considered that many companies currently offer the same products or services to their potential clients. Despite the many competitors, most of respondents found that only 10% or less of the annual turnover comes from clients located outside their home country (59.1%). However, while observing foreign trade, a great disproportion in the international business of the studied entrepreneurial structures was noticed. Although the most managers noted a minimum ratio of total annual turnover generated outside national borders, as many as 18.2% of managers reported international traffic in excess of 90% of total annual turnover. In this case, it was mostly trading companies which considered retail and wholesale as their primary business activity.

The first association of Croatian managers with competitiveness was price and quality. Such observation of the competitiveness is associated with the beginnings of the theory of competitive and not adapted to the present conditions of turbulent environment. The most common association related to the competitive advantage was also quality and market leadership, winning. Impressive were the responses that had a competitive advantage associated with something that could not be achieved in the Croatian territory. In doing so, as many as 86.4% of managers evaluated and based their competitiveness on internal factors related to the strengths and weaknesses of the organization. Half of the managers surveyed said that the competitiveness of the business estimated qualitative indicators, while 45.5% of respondents tied competitiveness with quantitative indicators. However, 4.5% of respondents opted for both options valuation of market success. Observing the qualitative indicators of success, they focused most on differentiated supply (68%). 18.1% of managers surveyed used the value proposition as an important factor of competitive success, while only 4.5% of managers mentioned the emotional value. The exceeding consumers expectations were associated with an intrusion on their privacy and an undesirable component of watching competitive success, while interactive customer relations, 9.1% of managers surveyed were recognized as an important determinant of competitive success. Looking at quantitative indicators of success they focused the greatest attention to the liquidity (63.6%), followed by

debt (18.2%) and activity indicators (9%). All others observed performance indicators and are evaluated as very important. In doing so, the surveyed managers confirmed that when they are evaluating financial performance they mostly compare with their own financial performance over a period of time (72.7%).

To maintain a competitive advantage in the marketplace, they considered investments in new technology, knowledge and related quality and uniqueness of the offer as the key factors.

7.2. Slovenia

The vast majority of the observed Slovenian enterprises are privately owned (88.9%) with the employees number of 10 to 249 (77.8%), which are classified as small and medium-sized enterprises in the ICT sector, finance, professional and other services (66.6%), manufacturing (22.8) and retail and wholesale (10.6%). The surveyed managers have mostly perceived great competitiveness of their market space (55.6%). But as many as 11.1% said they had not competitors. The most surveyed managers (46.3%) found that as much as 76% to 90% of their annual turnover was realized outside their home countries, while 32.2% registered between 26% and 50% of international traffic. As many as 11.5% of managers determined that more than 90% of annual turnover occurs outside national borders.

The most common associations related to competitiveness are struggle and other companies, and optimization and adaptation, while the competitive advantage is tied to innovation, technology and adaptation. Of these, 66.7% of managers surveyed ground their competitiveness on internal organizational factors. More than half of Slovenian managers (55.6%) evaluated the competitiveness of qualitative indicators such as customer satisfaction, relationships with customers and strategic position. Observing of the qualitative performance indicators, they pay the most attention to the differentiated offer (46.4%) and its useful value (44.2%). In terms of quantitative performance indicators, liquidity (66.6%) and business efficiency (22.2%) are the most valuable. The assessment of individual perceptions of financial performance indicators shows that liquidity is considered to be an extremely significant indicator of success, and efficiency, profitability and activity are very significant, while debt is rated as a good indicator of competitive success. The tendency to compare with own financial performance (55.6%) and industry average (33.2%), but also on the stock market average (12.2%) was observed.

Slovenian managers included in the research sample considered that the key for the long-term competitive advantage is in specialization, to improving the offer, innovation, good customer service.

7.3. Bosnia and Herzegovina

The enterprises surveyed in the territory of Bosnia and Herzegovina were mainly small and medium-sized enterprises (87.8%), privately owned (90.2%), operating within the ICT sector, finance, professional and other services (39%), retail and wholesale (37%) and the manufacturing sector (22%). They operate largely within the competition of saturated market space (78%), but 10% or less (58.5%) of their annual turnover accumulates outside national borders. 12.2% of managers surveyed confirmed the annual international turnover between 11% and 25%. The same proportion of surveyed managers (12.2%) perceived the turnover outside the national framework of more than 90%, but mostly in retail and wholesale companies.

The surveyed managers mostly equate the competitiveness with the contest, but also with the quality and price of the offer. Similar comparisons are related to competitive advantage. However, market leadership has more often linked with customer satisfaction and unique supply. They mainly assess the competitiveness through the internal organizational factors (78%). However, in the same proportion, they pay attention to qualitative (51.2%) and

quantitative indicators of competitiveness (46.4%) (2.4% of the managers surveyed stated a combination of qualitative and quantitative indicators). Looking at qualitative indicators of competitiveness, managers point out differentiated supply (46.3%) and usable value (14.3%), but also exceeding consumer expectations (24.6%) and an interactive relationship with consumers (14.8%). Analyzing the answers for the importance of quantitative indicators, the greatest attention paid to liquidity (68.3%) and activity (12.2%), followed by profitability (7.3%) and efficiency (4.9%). But individually examining the perception of quantitative indicators of competitiveness, the ones rated with highest scores were liquidity, profitability and efficiency. Activity is considered to be a very significant indicator of competitiveness and debt is of medium importance. In quantitative assessment of business competitiveness, surveyed managers expressed a preference for comparison with their own financial performance (63.4%) and industry average (29.2%).

Sustainable competitive advantage mostly was associated with human resources, their knowledge and satisfaction. However, customer satisfaction with a unique offer is also considered crucial.

8. Discussion of the results of management research on competitiveness

The research sample consisted of growing enterprises of 3 national economies, Croatia, Slovenia and Bosnia and Herzegovina. Despite the different national frameworks of their entrepreneurial activity, many demographic similarities of the observed enterprises and the perception of the competitiveness of their management were observed. It is mainly the small and medium enterprises in private ownership that operate within the competition saturated the ICT sector, finance sector, professional and other services. However, only Slovenian companies tend to do business outside their home country, avoiding the intense competitive threat. Although they operate in a competitive market-driven space, all surveyed managers mostly observe competitiveness through internal organizational factors which represent the strengths and weaknesses of the organization. Also, evaluating their competitiveness with financial performance indicators compares to their own financial performance over a period of time.

Managers of companies in Croatia and Bosnia and Herzegovina mostly linked the competitiveness with price and quality of supply, while Slovenian managers emphasize the importance of adjusting to market conditions, while the managers of Croatia and Bosnia and Herzegovina attach a competitive edge to the quality and uniqueness of the offer. However, managers of companies located in Bosnia and Herzegovina also emphasize consumer satisfaction as competitive advantage. But they also emphasize the importance of human capital, employees, especially the importance of their loyalty and continuous improvement. In order to maintain a competitive edge in the market, Croatian and Slovenian managers consider investment in new technology and knowledge, as well as the related quality and uniqueness of the offer, as crucial. The surveyed Slovenian managers also mention good customer service, but do not emphasize the relationships as crucial to business stability in today's turbulent environment.

Although they pay equal attention to quantitative and qualitative indicators of competitiveness, looking at the qualitative factors of competitive business, the managers of Bosnia and Herzegovina, with a differentiated offer, attach great importance to the need to deliver greater value than expected and interact with consumers. Although Slovenian managers attach greater importance to qualitative indicators of competitiveness than to quantitative ones, they rely almost exclusively on market success of differentiated supply and its useful value, as Croatian managers do. Such a perception is part of the traditional approach to competitiveness based on supply that does not respond to today's turbulent environment, in which relationship-based business stability is key to survival and growth. The exceeding expectations of consumers that

assume emotional value and, consequently, an interactive relationship, enable loyalty that resists the volatility and hyper-competitiveness of the market.

All surveyed managers consider liquidity to be the most important financial indicator of competitiveness, and least significant - debt ratios. Although managers perceive liquidity as the most important coefficient, all other financial indicators are equally important depending on the purpose of the analysis. In this case, competitiveness issues should include profitability and activity ratios in the same line as liquidity. The sources of funds and their use, as well as the cost-effectiveness issues in the case of this analysis, are also important, but they may not be at the top of the manager's perception of competitiveness. In this case, competitiveness issues should include profitability and activity ratios in the same line as liquidity. The sources of funds and their use, as well as the effectiveness ratios issues in the case of this analysis, are also important, but they may not be at the top of the manager's perception of competitiveness.

Although Bosnia and Herzegovina has the worst competitiveness indicators evaluated by the GCI methodological framework and is ranked lowest on the GCI scale (Slovenia - 35th place, Croatia - 63rd place, Bosnia and Herzegovina - 92nd place), its examples of good entrepreneurial practice operate in accordance with the theoretical assumptions of today's marketing business conceptions based on the concept of value, market orientation and relationship marketing. For that it is credit the historical heritage and a related culture, not the methodological framework of the determinant of national competitiveness. Relationship-based business conception is based on difficult to measure, intangible factors.

9. Conclusion

The results of the conducted research indicate the perception of equal importance of quantitative and qualitative indicators of competitiveness. In doing so, it was determined that liquidity considered to be the most significant quantitative indicator of competitiveness. It belongs to the group of current financial competitiveness indicators and can confirm earlier conclusions about the lack of attention paid to long-term market performance and sustainable relationship-based competitiveness.
In a turbulent environment, stable business performance based on constant relationships is the largest competitive force recognized by the majority of respondents located within the national framework of the third observed economy of, that is, Bosnia and Herzegovina. Other respondents associate market success with differentiated supply and its utility value. Such perception is part of the traditional approach to competitiveness that does not apply today's turbulent business conditions.

A competitive offer implies emotions, experiences and solutions to the consumer's problems. Every feature of the product can be easily imitated and every service standardized. In order to achieve a unique advantage in the market, it is necessary to provide a specific consumption experience and to create an experience of satisfaction. The hyper-productive market is constantly pushing the boundaries of consumer expectations with its offer. If the supplier succeeds in exceeding consumer expectations it creates a unique competitive advantage. This competitive thinking is integrated into today's marketing concept of business and adopted as a recommended business concept. It is easier for individual organizations and national economies to adopt it because of their specific historical heritage and culture, rather than the commonly observed competitiveness preconditions such as those implemented within the GCI model (institutions, infrastructure, health and education, technological readiness, size and market efficiency, innovation).
Relationship-based business, not solely result-driven, requires a change in perception and attitude. Intangible determinants of competitiveness are based on intangible factors.

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A scientific paper

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SIGNIFICANCE OF THE NATIONAL AND EU FUNDING IN FINANCING A LONG-TERM INVESTMENTS OF THE ICT SECTOR[1]

ABSTRACT

The aim of this study is to contribute to the understanding of the national and the EU funding significance for the development of the Information and communication technologies (ICT) sector and to emphasize the development necessity of business supporting services and the ICT companies' knowledge in the financial management field. Therefore, the author analysed the level of utilization of national and EU funds in co-financing the investments in the fixed assets of the ICT companies during the period of 8 years, from 2008 to 2016, with the purpose to identify trends, needs and its improvement possibilities. As well, author conducted the on-sight survey with the ICT experts on the reasons of low utilization level of the EU and national funds in financing the investments in fixed assets of the ICT companies.
It was discovered that there is a continuous low level of contribution of the EU and national funds in long-term investments of the ICT sector as it ranges from 0.6% to 1.7% of total investment value, where more than 90% is financed from companies own sources throughout the observed period. These are surprising data if taking into consideration that there is more than 60% of available unallocated funds from EU programs and funds (programming period 2014-2020) aimed for the ICT oriented projects.
The ICT professionals, which clearly stated that they consider application to the EU and national calls for funding time-consuming and too administrative, gave the answer to the question of what are the reasons for the low level of utilization where, it seems, final value of outcomes and perhaps even possibilities for approval do not correspond to the invested effort. Here, the question of the level of knowledge to develop the project applications and conduct the EU projects was raised as well.

Key words: *ICT, EU and national funds, long-term investments, business environment.*

1. Introduction

The basic characteristic of the high-tech companies is that their value is based on long-term growth potential, with uncertain future cash flows, especially in the early development stages. Their production cycle is characterized with a possible need of high investments in the research and development (R&D) with often uncertain marketability of a final product or service. Additionally, their equipment and their products can have high obsolescence rates. For those reasons, and usual lack of collateral, they do not have open and simple access to funding opportunities (Bank of England, 2001). As they recognized importance of the small and medium companies (SME) and the high-tech companies on overall economic development, governments are trying to develop and implement the effective incentive measures. "In developed and developing economies, governments and policy-makers seek to

encourage the creation of new firms in order to drive economic development and growth, and to create jobs." (Grant et al., 2019a, 1). "In some countries, mentioned incentives are designed to foster overall growth, while in others, they target specific sectors." (Fijuljanin, Fijuljanin, 2017, 224) This paper seeks to analyse the efficiency of the EU and national funding programs in supporting long-term investments in the Croatian sector of information and communication technologies (ICT).

The purpose of this work is to contribute to the theoretical basis on the investment funding of the ICT sector and to provide suggestions for the policymakers in the area of developing specialized sector oriented development programs. This study analyses the effectiveness of the national and EU funding programs for fostering the investments in the ICT businesses by taking the information technology industry investment financing as the research object. On the one hand, it is expected to improve the theoretical basis on the investment funding in the ICT sector; on the other hand, it also expects to provide suggestions for the economic policies for the ICT industry development, which is considered as a pillar of achieving goals of the European Union Digital strategy.

The chapter that follows the introduction, analyses the relevance of the ICT and funding mechanisms for the ICT businesses. Second chapter gives a review of previous empirical studies that are dealing with the financing of the investments in the ICT sector. Following literature review, the research methodology is presented. The results of the empirical study and the discussion about the research findings and comparison to the previous research results are the main parts of this paper. The last chapter gives conclusion, policy recommendations, limitations of the research and recommendations for the future research.

2. Research Background

As the economic theory evolves sector oriented research are becoming more common, in contrast to the earlier periods when the studies were more focused on the business performance analysis within the category of enterprises defined by size, thus exploring large, small and medium-sized enterprises or start-ups, or sector (public or private). For example, nowadays there is much research that studies the development of specific management factors on the performance of the high-tech or knowledge based oriented businesses (Zeng, 2020). As well, there are numerous publications on the financing of business activities, capital structure and investment financing structure where in the last period the sectoral oriented publications can be found. ICT businesses, with their specific business characteristics, sectoral dynamics and business cycles, are gaining larger attention in recent period (Megersa, 2020; Cioacă et al., 2020; Grant et al., 2019a; Karpa, Grginović, 2020; Lee et al., 2017).

Following this trend, the aim of this study is to contribute to the understanding of impact of the national and EU funding models on development of ICT businesses and to emphasize the necessity of development of ICT companies' knowledge in the field of financial management. Therefore, the author analysed the level of utilization of the national and EU funds during the available period, from 2008 to 2016, with the purpose to identify trends and possibilities for improvements in this field. Also, the author conducted the survey on the reasons of low utilization level of the EU and national funds in financing the investments in fixed assets of ICT companies.

The necessity of the analysis of this specific sector comes from the fact that the ICT unlike any other sector is interlinked and has strong impact on the performance of all other industries (Cioacă et al., 2020; Yie, Nam, 2019; Keček et al., 2019; Rosario et al., 2019; Alshubiri et al., 2019; Igel et al., 2017), where its development affects the efficiency and performance of the economy as a whole. As a result of the research, the development and investments in automation, communication and technological processes, as well as the global spending on the ICT is in constant growth. The following chart shows the IT services spending in the period 2008 to 2019 including the forecasts for 2020 and 2021.

Figure 1: Information technology (IT) services spending forecast worldwide from 2008 to 2020 (in billion of EUR)
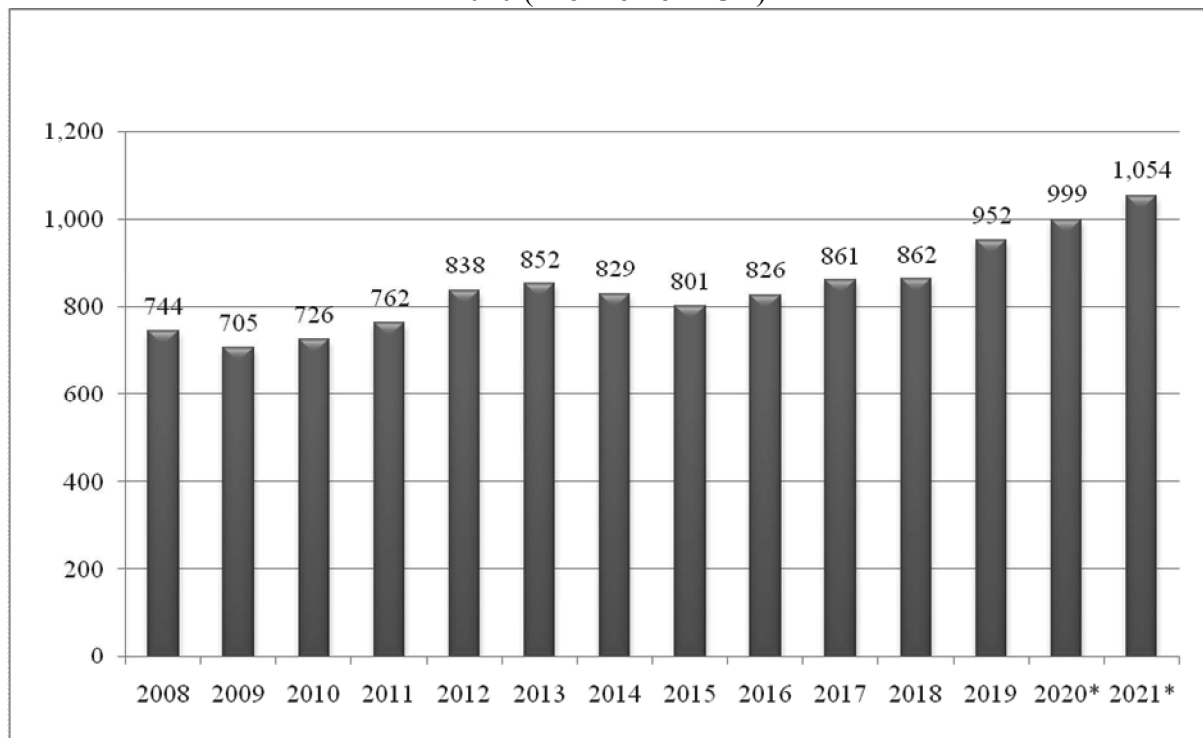
Source: Adopted according to Statista (2020)

According to presented data it can be seen that in the period of 2008 to 2019 the IT global spending shows a growing trend starting from 2008 with evident strong growth in the following years. If analysing the period of the global crises (2008 to 2012) it can be seen that in spite of setbacks in 2009 and 2010 the sector showed rather good resilience to unfavorable market trends as it faced decline of only 5% in 2009 and 2% in 2010 in comparison to the 2008. Nevertheless, even in global crises the global spending has grown for 13% (2012 in comparison to 2008).

By analysing the survival rate of the ICT companies in European Union, Gibison (2015) found that the companies created in 2008, had the survival rate of 61% in 2011. At the same time survival rate of non-ICT companies created in 2008 was at the level of 55%. (Gibison, 2015). Arvanitis and Loukis (2019) found that although there was reduction in ICT investments during economic crises it didn't lead to reducing the ICT-based innovation, but it led to the more efficient and innovative way of an ICT resources exploration. On the other hand the author emphasizes the importance of continuation of ICT investments (equipment and personnel) that are necessary for the continuation of the digital transformation towards the new generations of ICT-enabled products. (Arvanitis, Loukis, 2019).

The need for the further research of this sector characteristics and preconditions for future economic development comes from the economic impact of the ICT sector; its resilience on economic crises (Draca et al., 2018) and the fact that it employs high educated young professionals. This has been recognized by the European Commission. "Considering the effects induced by the development of the ICT sector, the European Commission proposed for the next European Union budgetary exercise (2021–2027) a new program dedicated to the single market, with a total value of four billion euros." (Cioacă et al., 2020, 13)

3. The Theoretical Analysis and Research question

The "ICT firms face an exclusive set of challenges in choosing the appropriate financing to involve in R&D and produce more innovative goods and services" (Lee et al., 2017, 8574).

This is especially emphasized in small and medium ICT companies which, more than the companies of other industries, need intensive and frequent investment in technologically advanced equipment that is, as of its obsolesce rate and marketability, usually less suitable collateral to secure the repayment of financiers' claims in the event of default. Therefore, there are sector-oriented researches, which are trying to analyse business characteristics and problems and to offer solutions for the needs of the ICT companies in the field of financing (Megersa, 2020; Cioacă et al., 2020; Grant et al., 2019a; Karpa, Grginović, 2020; Lee et al. 2017 and others).

3.1. Financing investments in the ICT sector

Speaking about the importance of the ICT sector for the economic growth and employment, Cioacă et al., 2020 emphasize the need for more strategic approach in financing of the investments in the ICT sector. "In order to increase the degree of sustainability, the financing of the ICT sector must take into account the implementation of an investment strategy that allows for the introduction of new technologies on the European market, considering that these involve major high-risk capital investments." (Cioacă et al., 2020, 5) Therefore, there are numerous different government incentives for R&D open to all sectors, including ICT (Fijuljanin, Fijuljanin, 2017). Except that, the ICT has on its disposal all traditional ways of financing and business supporting services. So the financing and supporting activities could be classified as:

- Classical financing models:
  - internal financing: the owners financing, retained earnings, reserves;
  - external financing: family and friends, bank loans, trade credits, leasing, factoring, invoice discounting, share issues, initial public offerings (IPO), corporate bonds issuing, commercial papers;
- Non-financial services: free consulting services, payment or performance insurance instruments (guarantees), letters of credits;
- Alternative financing (venture capital, angel financing, crowdfunding, grants and subsidies).

Not all models are reachable for all companies in the ICT sector, especially the debt financing in the case of start-ups or SMEs. For that reason, there are numerous examples of special development programs offered by the government or local units that recognized the importance of the sector for their economy or recognized the sector as strategic according to the Smart Specialization Strategy (S3). The S3, except other sectors, encourages the knowledge-based, innovation and technology-driven industry development approaches, with effective implementation monitoring (Gianelle et. al; 2016). To some level, the presence of the ICT in the National/Regional Innovation Strategy for Smart Specialisation (RIS3) ensures supports or development of government programs for the ICT industry. Unfortunately, Croatia is not among countries that recognized the ICT as a priority area in its RIS3 (according to information published by European Commission, 2017) and therefore, it cannot be expected for the government to bring specialized programs for development of this specific area. Nevertheless, there are EU programs as well as local government units' efforts directed towards the endorsement of the local and regional ICT sector (for example programs for financing activities of the ICT sector run by City of Osijek and Osijek-Baranja county).

On the global level, there are, as well, good examples of the government programs developed with the same purpose. For example, the Inovar Programme in Brazil whose objective is "to support the development of new, technology-based SME companies through the establishment of a venture capital (VC) market and to enhance private investment in technology businesses." (Megersa, 2020, 8) There is the Industrial Research Assistance Program (IRAP), a regional 'fund-of-funds' approach and a government venture capital in Canada. And there are programs of the Ministry of Science and ICT of the South Korea that

that oversee and implement government policies in the fields of science and ICT, support innovative research and skills development in the ICT. "Presently, it is now championing the 4th industrial revolution. Therefore, it is no surprise that in 2018, the Ministry of Science and ICT started to support Korean Blockchain companies" (Kyei, 2000, 1)

Cin et al. (2017) analysed the effects of public subsidies for the R&D where they found the positive effects on the industry. Moreover, "the policy thus appears to have been successful in fostering technological advancement and in promoting economic growth" (Cin et al., 2017, 345).

Nevertheless, the government funding cannot solve all the financing gaps, but the "public sector initiatives should be aimed specifically at improving the provision of small amounts of risk capital to technology-based small firms at the seed, start-up and early stages" (Bank of England, 2001, 76) as the financing of companies at later stages is available through a debt financing. Nevertheless, it should be emphasized that "sector and size differences influence access to funding. Knowledge-based industries (KBIs), such as information and communication technologies (ICT), clean tech and life sciences, have the lowest financing approval rates, with food and accommodation sectors also being very low" (Gregson, 2018, 19). Megersa (2020) qualifies the new, innovative and fast-growing companies as a higher risk-return profile companies that in early stages need to run and finance high growth prospects businesses with uncertain and hard to predict future cash-flows and profits (Megersa, 2020).

On the other hand, although with easier access to the debt funding, large ICT companies have a need to finance major high-risk capital investments in technology, infrastructure development or product development projects. These investments, with regard to their specific form (specific equipment that is difficult to monetize, rapidly obsolete technology, development of infrastructure and intangible assets, know-how) are hard to convert into predictable cash flows and therefore are often rated as high risk investments by most commercial banks. Large companies can turn to the initial public offerings, where in the last period this became more frequent way of financing large enterprises. Renaissance Capital has published that in the year 2018 the total of 190 ICT companies went public. (Carey, 2019)

Countries that have developed angel investors or venture funds networks have found themselves in the position to reduce the gap in financing the higher-risk technological based start-ups, small and medium companies where those sources gave companies better prospects for survival. By analyzing the Candian firms that used angel investor funds in a period of seven years Grant et al. (2019b) found that their average survival rate was 74% while for the whole sample (including all industries) it was on the level of 69%. The start-ups in ICT were represented with 44% in the sample of 775 start-ups in Canada that received funding from the National Angel Capital Organization members.

Figure 2: Survival Rates by Industry Sector Source: National Angel Capital Organization (NACO)
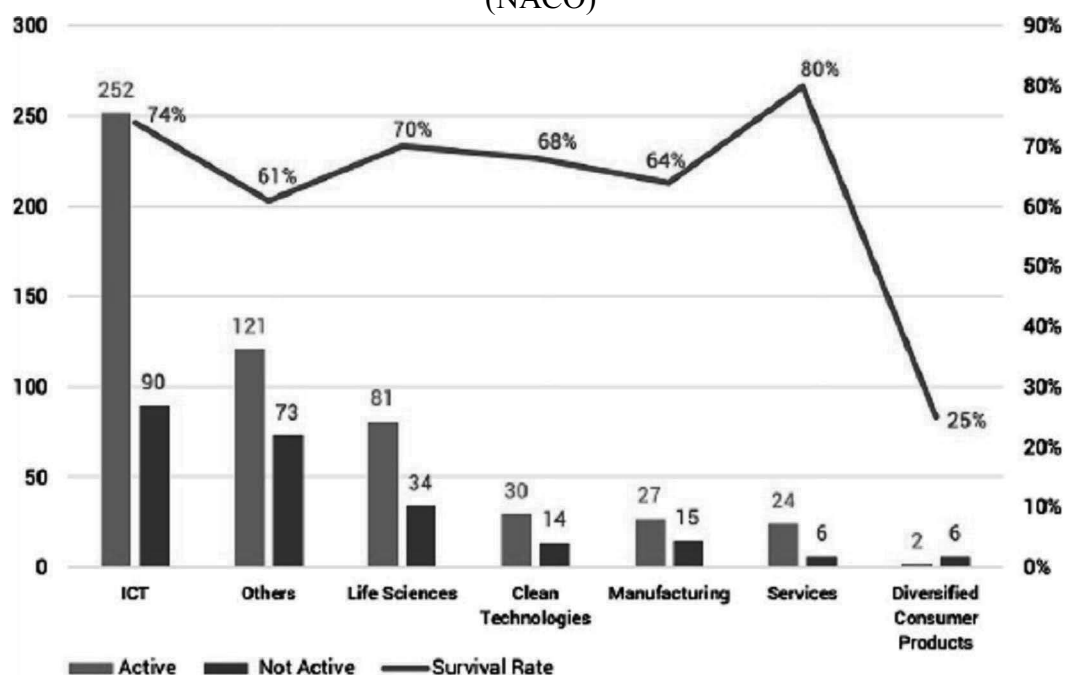
Source: Grant, Croteau, Aziz, 2019b, 13

In comparison to all other sectors, except services, the survival rate of the ICT companies was significant. Also, the authors have found that the angel investments of the NACO members have had a significant growth (Grant et al. 2019b, 14) where "the size of investments varies among sectors, the distribution of investments by amount is somewhat different"…"In particular, ICT has only attracted 28% of the amount invested compared with 44% of investments. In fact, ICT's share of investments by value has been declining year-on-year" (Mason, Hunter, 2018, 31). On the other hand, in testing the survival rate of the companies five years after the IPO's Espenlaub et al. (2010) found that the IT companies had a higher probability of a failure than companies in other analysed sectors (financial, cyclical service and resource sector) (Espenlaub et al., 2010). Karpa and Grginović (2020) analysed the performance of the venture capital funding during the last decade, where they concluded that in 2016, the American ICT sector received more than half of its total venture capital investments (53.6%) while in the Europe ICT received 45% of total venture capital funding. As of distribution of the funding across European Union, the "companies that managed to raise the most of capital are located in the U.K., Germany and France. Sadly, there are only few firms that succeed in raising venture capital in Central and Eastern Europe" (Karpa, Grginović, 2020, 13).

It can be concluded that the angel and venture capital is more reachable in developed countries, while in developing countries, due to lack of free private capital and probably the higher aversion towards risk, these sources are scarce. For that reason, the role of the national and EU funding in the developing countries is even more significant.

The research question that arises is: Are Croatian ICT companies using the EU and national funds (budgetary assets and assets realized according to special regulations) in financing of the investments in fixed assets on the level of national average of all industries?

3.2. Methodology of the Research

Based on the framework of the theoretical analysis this study observes the effectiveness of the state and EU funding programs for fostering the investments in the ICT businesses by taking the information technology industry investments in the fixed assets as a research

object. The data, which were gathered through desk research of the official Croatian Bureau of Statistics publications for the period of 8 years (from 2008 to 2016), about financing/acquisition of investment in fixed assets from EU funds and budgetary assets were analysed.

In 2017 (that is the last available information presented by the Croatian Bureau of Statistics) there were 8,595 legal entities registered in the section J Information and communication of the NACE classification (8,465 in 2016), of which 6,135 active (71%), these data were compared to the state level, where only 150,401 (59%) of registered 254,776 companies were active. In the observed year, the ICT companies were employing 35,179 employees (2.98% of total number of employees on national level) (by Croatian Bureau of Statistics (2017-2018)). Table 2 is giving the structure and performance of the companies registered in section of Information and Communication that are research object of this study.

Table 1: Performance of enterprises in 2016[2], by size classes of number of persons employed, for the J Information and Communication (by NACE 2007)

Categorization (by number of persons employed)	Number of enterprises[3]	Number of persons employed	Turnover (in M EUR)	Value added at factor cost (in M EUR)
Micro-sized (<10)	6,084 (91.6%)	11,865 (29.7%)	540 (15.1%)	216 (13.4%)
Small (10 – 49)	477 (7.2%)	9,000 (22.5%)	596 (16.7%)	265 (16.4%)
Medium -sized (50 – 249)	67 (1%)	6,867 (17.2%)	727 (20.4%)	297 (18.4%)
Total SMEs	**6,628 (99.8%)**	**27,732 (69.4%)**	**1,863 (52.3%)**	**778 (48.2%)**
Large (250+)	**14 (0.2%)**	**12,204 (30.6%)**	**1,702 (47.7%)**	**836 (51.8%)**
Sum: SME's and Large companies	**6,642**	**39,936**	**3,565**	**1,614**

Source: authors' work according to data published by Croatian Bureau of Statistics[4] (Statistical yearbook, 2018, 218-220)

In the structure of the ICT sector of the Republic of Croatia there is 92% of micro sized companies and 7% of small companies. Together they employ 52.2% of the ICT sector employees, out of this number 14 large companies are employing 30.6% of the employees and achieving 47.7% of the sector's turnover. Predictably, large companies are achieving the highest amounts of value added per employee and value added in relation to achieved turnover.

For the reason of closer analysis of the results collected by desk research, in 2019 the author conducted the onsite survey with 112 ICT experts. The structure of the respondents was represented in the following table:

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[2] The last available Statistical report published by Croatian Bureau of Statistics in 2019 (Statistical yearbook, pp. 218 – 220) is giving structural business statistic for 2016 while information for 2017 will be published during the second half of 2020.

[3] Number of enterprises represents "a number of legal entities and natural persons registered in the Statistical Business Register that were active during at least a part of a reference period." (Statistical yearbook, 2018: 217)

[4] For the purpose of presenting EUR values, the authors used mid exchange rate EUR/HRK (7.457719) of the Croatian National Bank established on 26 February 2020.

Table 2: The structure of the sample

Location			Size of the company by the number of employees			Business function		
	Responses	**Share in total**		**Responses**	**Share in total**		**Responses**	**Share in total**
Zagreb	46	41.07%	Micro	20	17.86%	Team member	49	43.75%
Osijek	32	28.57%	Small	21	18.75%	Owner	4	3.60%
Other cities	34	30.36%	Medium	41	36.61%	Lower management	22	19.60%
			Large	30	26.79%	Mid management	16	14.30%
						Top management	21	18.75%

Source: authors' work

Table 1 is presenting the structure of the respondents. It can be seen that significant number comes from the capital city of Zagreb, and 73% are micro, small and medium companies. 56.3% of the respondents are coming from owner or management structures and therefore can have specific information in the field of this research.

4. Analysis and Findings

Except for the analysis of the ICT sector structure given in previous chapter, the analysis of the EU funds, budgetary assets and assets realized according to special regulations utilization in financing of the investments in fixed assets is given in following table, with the purpose of finding the answer to the research question: *Are Croatian ICT companies using the EU and national funds (budgetary assets and assets realized according to special regulations)in financing investment in fixed assets on the level of national average?*
Table 3 shows the share of the investments financing in all Croatian industry sectors compared to the ICT sector, for the purpose of identifying trends in the long-term investments financing structure and performance of investment co-financing programs on the national and EU level.

Table 3: Financing/acquisition of investment in fixed assets from EU funds, budgetary assets and assets realized according to special regulations in the period 2008 to 2016[5]

(in M EUR)

Year	Republic of Croatia (all business activities)			ICT			Share of TI and EU & national funding in ICT in the same category on the national level
	Total investments (TI)	**EU & national funding* / Share in TI**	**Owners Funding / Share in TI**	**Total investments (TI)**	**EU & national funding* / Share in TI**	**Owners Funding / Share in TI**	
2008	11,039			482			4,4%
		1,326 (12.0%)	6,032 (54.6%)		**3 (0.6%)**	379 (78.6%)	**0.2%**
2009	8,924			431			4.8%
		1,113 (12.5%)	4,641 (52.0%)		**3 (0.7%)**	386 (89.5%)	**0.3%**
2010	6,693			330			4.9%
		837 (12.5%)	3,774 (56.4%)		**2 (0.6%)**	297 (90.1%)	**0.2%**
2011	6,275			269			4.3%
		796 (12.7%)	3,519 (56.1%)		**1 (0.5%)**	240 (89.1%)	**0.2%**

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[5] For the purpose of presenting EUR values, the authors used mid exchange rate EUR/HRK (7.457719) of the Croatian National Bank established on 26 February 2020.

Year	Republic of Croatia (all business activities)			ICT			Share of TI and EU & national funding in ICT in the same category on the national level
	Total investments (TI)	EU & national funding* / Share in TI	Owners Funding / Share in TI	Total investments (TI)	EU & national funding* / Share in TI	Owners Funding / Share in TI	
2012	5,892			298			5.1%
		748 (12.7%)	3,511 (59.6%)		**2 (0.5%)**	278 (93.3%)	**0.2%**
2013	6,014			326			5.4%
		783 (13%)	3,763 (62.6%)		2 (0.7%)	306 (93.8%)	0.3%
2014	6,245			320			5.1%
		932 (14.9%)	3,033 (48.6%)		2 (0.7%)	281 (87.9%)	0.3%
2015	6,227			396			6.4%
		1,127 (18.1%)	3,210 (51.5%)		**3 (0.6%)**	372 (91.2%)	**0.2%**
2016	6,515			416			6.4%
		1,255 (19.3%)	3,477 (53.4%)		**7 (1.7%)**	379 (91.2%)	**0.5%**
Descriptive statistics							
St. Dev.	1,738	219		71	2	55	
Average	7,092	991		363	3	324	
Minimum	5,892	748		269	1	240	
Maximum	11,039	1,326		482	7	386	

*Note: EU and national funding includes EU funds, budgetary assets and assets realized according to special regulations
Source: authors' work according to data published by Croatian Bureau of Statistics (2010-2018), Statistical yearbooks of the Republic of Croatia 2010 to 2018.

The presented results show that in the period 2008 to 2016 all companies in Croatia had investment decrease due to the economic crisis in Croatia that lasted from 2008 to 2015. Nevertheless, the ICT sector did not face as large fallback as other sectors. If observing all industries, the decrease was on the level of 41% in 2016 in comparison to 2008 while the ICT companies faced the same trend but the decrease of investments was 14.1%. Together with the stronger decline of investments on national level, the share of the ICT companies' investments in total investments of all industries has risen from starting 4.4% in 2008 to 6.4% in 2016.

Taking into consideration that the ICT accounts for 3.74% of the national GDP in 2016 (Croatian Bureau of Statistics, 2018), this ratio could be considered as satisfactory.

Although the share of the EU and national funding (including EU funds, budgetary assets and assets realized according to special regulations) in the ICT sector investment in fixed assets has almost tripled (from 0,6% to 1.7.%), it is still on an extremely low level and under national level of utilization of the same sources (19.3%).

The uncertainty about the reasons for the low level of utilization should be further resolved.

For that reason, in September 2019 the author conducted the onsite survey with 112 ICT experts with the aim to identify the reasons for the lower level of utilization of the EU and national subsidies by the ICT companies. To the question: "*What is the reason why ICT companies have so far underused financial resources and grants from EU and national funds and programs?*", on which multiple answers were possible, the following structure of answers was found:

1. (53) 47% of the respondents – "Reporting and implementation requires too much administration",
2. (44) 39% of the respondents – "The application processes are taking too much time",

3. (33) 29% of the respondents – "We do not have sufficient knowledge to prepare and implement EU projects",
4. (20) 18% of the respondents – "Excessive requirements regarding the results of the investment made".

If analysing two main reasons, it was found that 67 (60% of the total sample) of all respondents had at least one answer (stated above as 1st and/or 2nd) which clearly states that the ICT experts consider application timely consuming and too administrative, where, it seems, benefits do not correspond to the invested effort. At the same time, 33 (29% of the total sample) stated that they do not have sufficient knowledge to prepare and implement EU projects of which 13 (12% of the total sample) positively answered on all tree statements (stated as 1st, 2nd and 3rd).

This can be an indicator that in one part the ICT businesses management, without previous knowledge and experience or on the basis of the experience of others, created an opinion on the complexity of the application to the EU and national tenders.

5. Discussion

In the structure of Croatian ICT sector there is 92% of Micro sized companies and 7% of the small companies. Together they employ 52.2% of all employees in the ICT sector. Together with medium companies, SME's are employing 69.4% of the sector employees and achieving 52.3% of the sectors turnover.

For that reason and the previous findings that the funding opportunities for these companies are generally limited (Megersa, 2020; Cioacă et al., 2020; Grant et al., 2019a; Karpa, Grginović, 2020; Lee et al. 2017), it is necessary to recognize the importance of this segment of companies and to develop appropriate measures for the development of SMEs in the ICT sector.

There are positive examples of the ICT endorsement measures (Megersa, 2020 Kyei, 2000; Fijuljanin, Fijuljanin, 2017) on the global level (examples of South Korea, Brazil, Canada etc.) that should be analysed, structured and proposed as an example of good practice for the policy-makers. As well, governments and EU directly and indirectly support ICT investments through their programs and funds. This paper is giving the analysis of the level of utilization of EU and national funding during the available period of 8 years, from 2008 to 2016, with the purpose to identify trends and improvement possibilities.

By the information of the European Commission (for the ESIF 2014-2020 fund) total amount planned for ICT in Croatia was on the level of 362,3 M EUR but the total allocation till the end of 2019 was on the level 129 M with planned approved spending of additional 5 M EUR. As a comparison, the neighbouring Hungary, has already allocated 87% of its available funds (European Commission, 2020). As the program is ending with 2020, Croatia should significantly speed up its utilization of available funds and allocate remaining 62% of planned sources. In comparison with the results of the research presented in this paper, where the level of contribution of EU and national funds in long-term investments in the ICT sector was on the level of 1.7% of total investment value, previous information should be alerting as they are indicating that Croatia will not be able to utilize all available EU funds.

The ICT professionals, who clearly stated that they consider application to EU and national calls for funding time-consuming and too administrative, gave the answer to the following question: What are the reasons for the low level of utilization where, it seems, final value of outcomes and perhaps even possibilities for approval do not correspond to the invested effort? This can be indication that in one part the ICT businesses management, with limited knowledge and experience or on the basis of the experience of others, created an opinion on the complexity of the application to the EU tenders. This possibility should be further explored and more closely analysed.

6. Conclusion and Recommendations

Based on the previous literature research, this study firstly analysed different models of financing of the ICT businesses and the examples of the development incentives of different economies. Through the literature research, the author has set the research question about the efficiency of the state and EU funding programs for fostering the long-term investments in the ICT businesses by taking the information technology industry investments in long-term assets as the research object. On the one hand, author expected to provide some suggestions for the economic policies for development of the industry; on the other hand, the author also wanted to improve the theoretical basis and suggestions on the development of the investment funding of the ICT sector.

It was found that there are numerous good examples where governments are introducing measures to foster ICT businesses and investments which are including EU funds. However, trough the research it was found that in Croatia there are large variabilities in the level of utilization of the EU and national grants among different industries, where the ICT sector is the industry with the lowest level of utilization of these funds. The reasons for this situation were explored by the on-sight research. The analysis showed that that the ICT experts consider application to EU and national calls for funding, time-consuming and too administrative, and it seems that final value of outcomes and perhaps even possibilities for approval do not correspond to the invested effort. Also, the question about the level of expertise in the ICT companies' financial management was set. It was concluded that the state should develop educational programs and support institutions to help small and medium ICT companies to apply for co-financing of their long-term investments and development projects. In addition, it is necessary to develop more sector oriented programs for establishment and development of small and medium-sized enterprises in the ICT sector at regional and local level and to analyse and publish the results achieved for the purpose of creating possibility of ongoing adaptations of the co-financing and development programs to industry needs.

The limitations of the research: The constraints of the research arise in the analysis of the data based on the NACE classification, as many companies have registered the main activity according to the NACE section J - Information and Communication, but it can be one in the series of activities that the company performs, sometimes not the most significant one. The Croatian Bureau of Statistics is not presenting the results of the divisions therefore the results of this research should be seen as an indicator where more comprehensive research, on the level of each NACE division or group in the J section, should be conducted. Also, there is the issue of the analysed period, during which the last available year was 2016, which could be considered as outdated.

The recommendations for the future research: Following the research limitations, a more comprehensive research in coordination with the Financial Agency (FINA) as the leading Croatian provider of financial services and information, should be conducted, so that more recent data on the investments characteristics could be analysed. Also, the reasons for the findings of the low utilization of EU and national funds and programs in financing capital investments of the ICT industry could be further investigated by in-depth interviews with the ICT companies' owners and top management.

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FINANCIAL POSITION AND PERFORMANCE - TWO OPPOSING CRITERIA?

ABSTRACT

Companies must achieve an appropriate balance between the adequate business security and a reasonable performance that will satisfy the interests of the owners. In terms of business security or financial position, it is essential to maintain a certain level of liquidity for the company to be able to pay its obligations. Higher level of liquid assets usually means that the company is less likely to have issues with repaying its short-term liabilities. However, the question is: can a company be too much liquid, i.e. can a high liquidity have negative consequences on the performance? According to the previous research, the relationship between liquidity and profitability can go both ways. In theory, a low liquidity may lead to increasing financial costs if a company is not capable to meet its obligations. On the other hand, some researchers claim that money invested in short-term assets generates less return than long-term assets, which means that holding high levels of short-term assets represents an opportunity cost, in addition to the fact that short-term assets require maintenance and therefore further reduce the profitability of the company. The aim of our paper is to systematize the results of the previous research in this field. Additionally, we are aimed to investigate the direction and strength of connection between liquidity and profitability indicators on a sample of non-financial companies in Croatia. According to the research conducted on 851 companies in the period 2008-2017, the correlation between current liquidity and RAO/ROE in the short run in usually negative, but not statistically significant. In the long-run, correlation for most companies is again not statistically significant. However, for those companies that experienced significant correlation, the correlation is primarily positive. The hypothesis that financial position or safety and financial performance are two opposed criteria cannot be accepted.

Key words: *financial position, performance, liquidity, profitability, financial indicators.*

1. Introduction

In order to ensure survival of a company, it is necessary that the company is able to meet its obligations and that it operates with profit. In other words, both financial security and performance are essential. The main stream in corporate finance suggests that companies are

awarded for taking risks with higher returns. That means that in theory aggressive financing approach would results in higher profitability. However, aggressive financing means less or no working capital, as a liquidity reserve for paying short-term liabilities. Therefore, this approach suggests the existence of trade-off between liquidity and profitability. The question that arises is if this theory is confirmed empirically and if the observed period makes a difference, in terms of short run and long-run.

The paper provides an overview of recent relevant research in the field of working capital management and its connection to profitability. In order to test the validity of the trade-off theory in Croatia, an empirical research was conducted on a sample of non-financial companies. The correlation between selected liquidity and profitability indicators was explored in the short run (within a certain year) and in the long-run (over the period of 10 years).

2. Theoretical correlation between financial position and performance in terms of liquidity and profitability

Companies can have many goals, but one of the most important one is to earn profits for its owners. However, in order to reach the stage when the company is profitable, as well as maintain its position, it is essential to ensure that the company is a going concern. This means that the company must be liquid enough to be able to repay its obligations in order to survive in the market. It is in the interest of all stakeholders, especially management, for the company to achieve the highest level of performance without compromising its security (Žager et al., 2019, 2). "*While survival is essential for growth, growth is, in turn, essential for survival*" (Panigrahi, 2018, 77). In other words, profitability is also a precondition for liquidity in the long-run, because profit generates positive cash flows that are sustainable. "*Thus, liquidity ensures short term survival and profitability ensures long term survival. Both are, therefore, important for any firm to survive*" (Niresh, 2012, 34).

In a word with perfect capital market, liquidity would not be of concern to companies, since they would be able to acquire needed founds at no cost (Zainudin, 2006, 108). Since this is not the case, companies must obtain a certain level of working capital, as a safety reserve if they face problems with liquidating their short-term assets. This is usually considered to be the conservative approach, while the aggressive approach would imply financing long-term assets by short-term liabilities (Bolek, Wolski, 2012, 182). Decisions regarding the optimal level of working capital are within the working capital management. According to Owolabi and Obida (2012, 14-15), factors that affect liquidity requirements of a company include: nature and size of business, manufacturing cycle, business fluctuations, production policy, credit terms, growth and expansion activities, operating efficiency, price level changes, etc.

The correlation between liquidity and profitability is under much debate, due to different theories that could explain both the positive and negative relationship between these two variables. The *trade-off theory* advocates for the negative correlation and suggests that companies cannot be highly liquid and very profitable, since high liquidity deteriorates company's profitability. According to Schwambach Vieira (2010, 8), short-term assets are usually less profitable than long-term assets, which than consequently means that investing money in short-term assets generates less return and represents an opportunity cost, in addition to generating further cost for maintenance. Due to keeping more assets in liquid form, good investment projects may be faced with funding shortage, resulting in lower profitability of the company (Hamid, Akhi, 2015, 420). Raykov (2017, 144) states that investing in highly liquid assets like cash and securities takes away sources from the operations' cycle, causing reduced

turnover and directly damaging profitability. Therefore, working capital has increasingly been perceived as a restrain on financial performance (Baser et al., 2016, 28). The trade-off theory also explains the opposite situation. However, as managers aim at maximizing the profit, they should be very careful in order to avoid running into liquidity problems (Yusuf et al., 2019, 138). If a company employs all its funds in profit generating projects, it may face difficulty in managing day to day operations (Hamid, Akhi, 2015, 420). This kind of view is incorporated into modern corporate finance, suggesting that managers have to make a trade-off between liquidity, risk and profitability (Çetenak, Acar, 2016, 295). Efficient working capital management therefore seeks to find a balance between having too high and too low liquidity, to avoid both accumulation of idle funds that do not earn profits, as well as the inability of paying current debts that would lead to deteriorating credit standing of a company (Zainudin, 2006, 108).

On the other side is the *pecking order theory*, which goes in favor of positive correlation between liquidity and profitability. In general, greater liquidity usually results in greater flexibility of the company in terms of production and sales, which might provide additional income. In addition, such companies have the ability to offer its customers longer terms of payment and are more competitive in the market (Bolek, Wolski, 2012, 182). According to Zainudin (2006, 108), sufficient liquidity has a potential of enhancing the value of a company. Liquid company is able to avoid emergency adjustments in operations, take advantage of opportunities that create value for shareholders and has more flexible financing alternatives at a lower cost. Uremadu et al. (2012, 82) also mentioned the importance of preserving company's reputation, which may be damaged in situations when a company is not able to honor its short-terms obligations. Damaged reputation may lead to fewer business opportunities in the future. Çetenak and Acar (2016, 298) state that the correlation between liquidity and profitability is under the influence of economy development. Even if the negative correlation is applicable to developed economies, in emerging economies, with financial markets that are not as developed due to information asymmetry and financial constraints, investment in working capital components may be beneficial for profitability, as it would allow for longer periods of sales-credit or increase profits through speculative cash or inventory holding. Companies in emerging markets could show a tendency towards higher liquidity, despite the trade-off and potentially reduced profitability, because of the gained experiences and prudent behaviors from stressed times (Baser et al., 2016, 28). In addition to the environment in terms of the economy development, Bolek (2013, 3) stresses the importance of the company's size, meaning that large and smaller companies might not face the same challenges in times of liquidity issues. While small companies do not have the choice and have to be flexible by maintaining a certain level of working capital, larger companies may apply a more aggressive approach and use their negotiation power to be able to run business even with negative working capital. In their case, low liquidity does not necessarily mean deterioration of profitability.

The third stream of theories represent a compromise between the trade-off and the pecking order theory. If the correlation between the liquidity and profitability is not linear, the correlation analysis would yield different results in the short-run and in the long-run. For example, a negative correlation in the short-run might turn into positive correlation over time. Hirigoyen (1985; in: Schwambach Vieira, 2010, 2) argues the relationship between liquidity and profitability becomes positive over the medium and long-run, due to the fact that a low liquidity would result in lower profitability because of greater need for loans that cause financial expense, while on the other hand low profitability would not be able to generate sufficient cash flow and would results in lower liquidity. Bolek (2013, 6-7) also stipulates non-linear relationship, but in the opposite direction. According to the same author, "*in the beginning of*

the value of the ratio an increase in liquidity ratios also means an increase of a company's profitability, but at some point the relationship changes and a further increase in liquidity ratios may lead to bankruptcy since the company may be over liquid and generate to low rate of return by investing to much in the working capital" (Bolek, 2013, 6).

Different theories showed that the correlation between liquidity and profitability is very complex, especially when different factors are included into consideration. The direction and the strength of the connection between these two variables is under the influence of the length of the observed period, size and business activity of a company, economy development and past experiences with general illiquidity, etc.

3. Previous research

As suggested by different theories that were developed regarding the correlation between liquidity and profitability, the empirical research did not reach a uniform consensus related to the direction of correlation. A list of latest relevant research is presented in Table 1. It is evident that the working capital management and its connection to profitability is still in the focus of the research, especially in emerging economies.

Table 1: Overview of the latest relevant research exploring the correlation between liquidity and profitability

Author(s)	Country	Period	Sample
Raykov, 2017	Bulgaria	2007-2015	20 listed companies from various activities
Bhunia, Brahma, 2011	India	1997-2006	4 private sector steel companies
Priya, Nimalathasan, 2013	Sri Lanka	2008-2012	10 listed manufacturing companies
Schwambach Vieira, 2010	Sweden	2005-2008	48 largest airline companies in the world
Bolek, 2013	Poland	2007-2012	non-financial listed companies
Baser et al., 2016	Turkey	2014	187 non-financial active listed companies
Hamid, Akhi, 2013	Bangladesh	2005-2014	10 companies from pharmaceutical and chemicals sector
Omoregie et al., 2019	Nigeria	2005-2017	18 listed manufacturing companies
Zygmunt, 2013	Poland	2003-2011	10 listed IT companies
Niresh, 2012	Sri Lanka	2007-2011	31 listed manufacturing companies
Ismail, 2016	Pakistan	2006-2011	64 non-financial listed companies
Jakpar et al., 2017	Malaysia	2007-2011	164 manufacturing listed companies
Zainudin, 2006	Malaysia	1999-2003	145 manufacturing SMEs
Saleem, Rehman, 2011	Pakistan	2004-2009	26 listed oil and gas companies
Egbide et al., 2013	Nigeria	2006-2010	30 manufacturing listed companies

Source: systematized by the authors

As may be seen from Table 1 and Table 2, previous research differs in terms of applied methodology. In addition to focusing on exploring companies from different activities, researchers also used different liquidity and profitability measures. As stated by Jakpar et al. (2017, 1), "*…there is still ambiguity regarding the appropriate variables which might serve as proxies for working capital management that would affect firm's profitability*". Although most researchers combine multiple liquidity ratios, the ratio that is the most often used is current ratio, which compares short-term assets to short-term liabilities and therefore signals the existence of working capital. As for the profitability measures, researchers usually calculate relative return compared to assets (ROA) or equity (ROE). According to Baser et al. (2016, 33), ROA is preferred as profitability indicator due to the fact that ROE is significantly influenced by the size of the company's equity, which complicates comparison of companies with different shares of equity in their balance sheet. Similarly, Schwambach Vieira (2010, 16) agrees that calculating ROE for companies with small or even negative values of equity is not

representative. In order to test the relationship between selected liquidity and profitability indicators, researchers primarily focused on correlation analysis, by calculating correlation coefficients or conducting regression analysis and observing the sign in front of the estimated regression coefficients.

Table 2: Methodology used in relevant research exploring the correlation between liquidity and profitability

Author(s)	Liquidity measure	Profitability measure	Type of tests
Raykov, 2017	quick ratio	ROCA (*Return on Current Assets*)	Johansen co-integration test + least square regression; Granger causality test
Bhunia, Brahma, 2011	current ratio, liquid ratio, absolute liquid ratio, short term debt equity ratio, age of inventory/debtors, creditors	ROCE (*Return on Capital Employed*)	multiple regression
Priya, Nimalathasan, 2013	inventory sales period, current ratio, operating cash flow ratio, creditors payment period	ROA, ROE	correlation and regression analysis
Schwambach Vieira, 2010	current ratio	ROA	correlation analysis in the short-run; two-dimensional analysis in the medium-run
Bolek, 2013	current ratio, cash conversion cycle, net cash flow, free cash flow	gross margin, income net margin, operating profit margin, ROA, ROE	OLS regression (5 models)
Baser et al., 2016	function of current ratio, margin, leverage, turnover	function of ROA, cash flow from operations, accruals	structural equation modeling
Hamid, Akhi, 2013	current ratio, quick ratio, working capital ratio	ROA, ROE, ROCE	correlation and regression analysis
Omoregie et al., 2019	quick ratio, EBIT to sales ratio	ROE, profit before tax-sales ratio	descriptive statistics, panel vector autoregressive (PVAR) framework
Zygmunt, 2013	current ratio, quick ratio, receivable conversion period, inventory conversion period, accounts payable conversion period, cash conversion period	ROA, ROE, return on sales	Pearson correlation coefficient
Niresh, 2012	current ratio, quick ratio, liquid ratio	net profit ratio, ROCE, ROE	Pearson correlation analysis
Ismail, 2016	current ratio, quick ratio, cash ratio, cash conversion cycle	ROA	descriptive statistical analysis, correlation analysis, multiple regression
Jakpar et al., 2017	cash conversion cycle, average collection period, days inventory held	ROA	discriminatory panel regression, Pearson correlation analysis
Zainudin, 2006	current ratio, working capital to total assets ratio	profit before tax to operating revenue ratio	Spearman rank correlation coefficient analysis
Saleem, Rehman, 2011	current ratio, quick ratio, liquid ratio	ROE, ROA, ROI	linear regression
Egbide et al., 2013	cash conversion cycle, current ratio, quick ratio	ROCE	descriptive statistics and multiple regression

Source: systematized by the authors

The results of the recent research conducted in the field of liquidity and profitability trade-off are not unified. Some of the research indicate the existence of negative correlation (e.g. Raykov, 2017; Priya, Nimalathasan, 2013), while there are also researchers that confirmed the existence

of positive correlation (e.g. Schwambach Vieira, 2010; Baser et al., 2016) or no significant correlation (e.g. Omoregie et al., 2019; Niresh, 2012). Therefore, a universal conclusion regarding the correlation between liquidity and profitability cannot be reached. However, it is evident that positive correlation usually exists in emerging economies. Emerging or developing economies are often characterized with general liquidity issues. For countries where liquidity is still an issue, an aggressive working capital strategy is usually not an option, since it would shortly lead to existential issues. Even in countries where the general low liquidity was problematic in the past, companies are often conservative and prudent due to gained experiences from bad times (Baser et al., 2016, 40). Therefore, as a result of specific aspects of the economy, where liquidity ratios have a significant positive impact on ROA, Ismail (2016, 304) suggests companies to relax their credit sales policies to be more accessible to a large number of customers. In such conditions, investments in various components of working capital may have a positive effect on profitability (Çetenak, Acar, 2016, 298).

Table 3: Results of the previous research exploring the correlation between liquidity and profitability

Author(s)	Results
Raykov, 2017	negative but weak relationship between liquidity and profitability in the long-run; the direction impact is from liquidity to profitability
Bhunia, Brahma, 2011	there is a correlation between the liquidity and profitability indicators, but the direction varies between companies
Priya, Nimalathasan, 2013	negative relationship between profitability and liquidity
Schwambach Vieira, 2010	significant positive correlation between liquidity and profitability in the short-run and medium-run
Bolek, 2013	every profitability ratio is influenced by different liquidity ratio (e.g. cash conversion cycle was negatively correlated to the operating profit margin and the income net margin)
Baser et al., 2016	moderate level of positive effect between liquidity and profitability; leverage is the most important indicator as taken into account on working capital decisions
Hamid, Akhi, 2013	positive correlation coefficients between quick ratio and working capital ratio when compared to ROA, ROE and ROCE; regression analysis founds no significant relation
Omoregie et al., 2019	no evidences of profitability-liquidity trade-off as function of capital structure; profitability and liquidity respond similarly to capital structure
Zygmunt, 2013	growth of conversion periods increases profitability; the influence was in some cases delayed
Niresh, 2012	there is no significant relationship between liquidity and profitability
Ismail, 2016	current ratio and cash conversion cycle have significant positive impact on profitability; firms are suggested to relax credit sales policies to be more accessible
Jakpar et al., 2017	there is insignificant negative relationship between the log cash conversion cycle and profitability; there is positive and significant relationship between the average collection period, inventory conversion period and profitability
Zainudin, 2006	there is a moderate positive association between liquidity and profitability, suggesting that profitable firms tend to maintain higher liquidity levels
Saleem, Rehman, 2011	ROA is significantly affected by only liquidity ratio; ROE is not affected by either liquidity ratio; ROI is affected by all three liquidity ratios
Egbide et al., 2013	current ratio and liquid ratio are positively correlated with profitability; cash conversion cycle is negatively related with profitability

Source: systematized by the authors

4. Empirical research

In order to examine if the two criteria – *financial position* or *safety* on the one hand, and *financial performance* on the other – are actually opposed, an empirical research was conducted on a sample of non-financial companies in Croatia. If the criteria are opposed, it implies that

there would be a negative correlation between liquidity and profitability of a company. In other words, a conservative approach of insisting on higher levels of working capital to ensure timely payment of liabilities would result in lower levels of return on assets or return on equity.

4.1. Methodology

Liquidity of a company reflects its financial position, while profitability suggests the level of performance. When measuring liquidity, financial ratio that is the most often used in the previous research is *current liquidity*, which compares current assets with current liabilities. As for measuring profitability, two ratios were selected as the most representative: *return on assets* (ROA) and *return on equity* (ROE). To test the hypothesis, the strength and the direction of correlation between current liquidity and both profitability ratios was examined.

Financial data required to calculate financial ratios was gathered from the database Amadeus, observing a 10-year period – from 2008 to 2017, and excluding companies from the financial industry. The initial sample consisted of 13,488 largest active companies in Croatia. When eliminating companies that did not have all the information necessary for calculating selected liquidity and profitability ratios in all 10 years, the sample was reduced to 7632. Additionally, we excluded companies with negative equity due to accumulated losses, since the profitability ratios for those companies would be distorted. On a sample of remaining 6363 companies, we identified companies that represented statistical outliers, based on the amount of their financial data that was used as the input when calculating selected ratios: total assets, current assets, equity, current liabilities and net profit. If at least one variable of a certain company deviated from mean value for 3 or more standard deviations, the company was excluded from the research. Eliminating statistical outliers reduced sample size to 6172, out of which 36 companies did not provide data on their primary section of activity according to the National classification of activities (NKD 2007). Since the levels of financial ratios are under the great influence of the primary activity of a company, when making conclusions about the liquidity and profitability of a company, companies were examined in the context of the activity they are engaged in, meaning that they were compared with companies from the same section of activity. Therefore, companies that did not disclose the primary activity were also excluded from further assessment. From a sample of 6136 companies, we extracted the largest 1000 companies, based on their total assets in 2017, as the target sample for the research. The final sample included 851 companies, due to eliminating companies that engaged in activities with less than 10 companies. The distribution of companies from the sample according to their section of activity (2-digit classification) is presented in Table 1, where it can be seen that 27 sections of activities remained.

Table 4: Companies from the research sample according to the primary section of activity

Section of activity according to NKD 2007		No. of companies
2-digit code	**Name of the section**	
46	Wholesale trade, except of motor vehicles and motorcycles	154
55	Accommodation	65
47	Retail trade, except of motor vehicles and motorcycles	58
41	Construction of buildings	49
25	Manufacture of fabricated metal products, except machinery and equipment	48
36	Collection, purification and supply of water	43
10	Manufacture of food products	42
68	Real estate business	39
01	Plant and animal production, hunting and related service activities	34
42	Construction of civil engineering buildings	28

Section of activity according to NKD 2007		No. of companies
2-digit code	**Name of the section**	
38	Waste collection, waste treatment and disposal activities; recovery of materials	25
16	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	24
45	Wholesale trade and commission trade of motor vehicles and motorcycles; repair of motor vehicles and motorcycles	24
23	Manufacture of other non-metallic mineral products	22
28	Manufacture of machinery and equipment n.e.c.	22
22	Manufacture of rubber and plastic products	21
52	Warehousing and related transportation activities	21
49	Land transport and pipeline transport	20
35	Electricity, gas, steam and air conditioning supply	18
70	Management activities; management consultancy	18
27	Manufacture of electrical equipment	13
18	Printing and reproduction of recorded media	11
31	Furniture manufacturing	11
62	Computer programming, consultancy and related activities	11
17	Manufacture of paper and paper products	10
20	Manufacture of chemicals and chemical products	10
26	Manufacture of computer, electronic and optical products	10

Source: calculated by the authors

The first step in the analysis was calculating current liquidity, ROA and ROE for all companies from the sample. The correlation between liquidity and profitability was then observed in the short run and in the long-run. When exploring the connection between variables in the short run, each year in the 10-year period was viewed separately and Pearson correlation coefficients were calculated for the pairs of financial ratios in the same year (e.g. correlation between current liquidity and ROA or ROE in 2008).

In order to explore the direction of correlation in the long-run, two types of tests were performed. First test included distributing companies into quadrants and observing their migrations over years, as performed in the research of Schwambach Viera (2010). To assess the level of liquidity and profitability, each company was compared with other companies in the sample that engaged in the same section of activity. Therefore, median values of all three used financial ratios were calculated across 27 sections of activities. Due to the fact financial ratios are under the great influence of company's activity, current liquidity and ROA/ROE were compared with calculated medians. Companies that in a certain year had both current liquidity and ROA/ROE above median values for their section of activity were distributed in a first quadrant. If the current liquidity was above median, but ROA/ROE was below median, company was in the second quadrant, while the opposite situation resulted in distributing company into third quadrant. In the end, companies with both indicators below median were in the fourth quadrant. In addition, the same procedure of distributing companies into quadrants was repeated, but the criteria used for current liquidity was above or below 1, therefore distancing companies that had or did not have working capital. After dividing companies into quadrants, their migrations over the 10-year period were observed to see if there is a correlation between liquidity and profitability.

The second test included viewing each company from the sample separately and calculating their Pearson correlation coefficient in the observed period. Correlation coefficients were first calculated between current liquidity and ROA, and then between current liquidity and ROE.

Based on the outputs, the strength and direction between liquidity and profitability ratios was explored.

4.2. Findings

In addition to sample characteristics, findings are divided into two segments. After presenting the results of the correlation analysis in the short run, the same correlation was tested in the long-run to explore if the hypothesis is valid.

4.2.1. Sample characteristics

Measures of descriptive statistics for 851 companies are presented in Table 2. Mean and median values as measures of central tendency showed that the average size of companies, when measured by total assets, has increased in 2017 when compared to 2008. In addition to total assets, measures are calculated for all financial items that are used to calculate current liquidity, ROA and ROE. However, standard deviation shows a high level of dispersion among companies, which is why the median values are more representative than mean values.

Table 5: Measures of descriptive statistics for companies from the sample

	Mean	Standard Deviation	Median
Current assets (000 EUR) 2008	5,387.92	5,878.36	3,560.19
Current assets (000 EUR) 2017	6,684.36	6,015.26	5,379.39
Total assets (000 EUR) 2008	13,218.39	13,875.33	9,238.45
Total assets (000 EUR) 2017	17,484.57	17,050.90	12,366.45
Equity (Shareholders' funds) (000 EUR) 2008	6,263.06	10,085.11	3,604.65
Equity (Shareholders' funds) (000 EUR) 2017	8,965.58	12,650.14	5,965.94
Current liabilities (000 EUR) 2008	4,142.84	4,599.67	2,830.14
Current liabilities (000 EUR) 2017	5,270.52	5,797.73	3,539.82
Net profit (P/L after tax) (000 EUR) 2008	420.44	930.81	170.73
Net profit (P/L after tax) (000 EUR) 2017	585.13	1,055.05	326.98

Source: calculated by the authors

Out of the total number of companies in the sample, approximately 70% of them have working capital and the current liquidity above 1 (Table 3). The percentage is relatively stable in the observed period. As for the financial performance, between 77% (in 2010) and 89% (in 2016) have positive profitability ratios, which means that they operate with net profit. Since these are usually the minimum requirements for business safety and performance, it can be concluded that the majority of companies is stable.

Table 6: Number/percentage of companies from the sample that have working capital and positive profitability ratios

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
CR > 1	581	561	592	581	567	588	593	598	597	607
	68%	66%	70%	68%	67%	69%	70%	70%	70%	71%
ROA/ROE > 0	677	663	657	670	677	702	695	734	755	738
	80%	78%	77%	79%	80%	82%	82%	86%	89%	87%

Source: calculated by the authors

4.2.2. Correlation between liquidity and profitability in the short run

Pearson correlation coefficients between pairs of financial ratios for 851 companies from the sample are presented in Table 4, where ROA was used as the profitability indicator, and Table 5, where ROE represents profitability. When observing correlation coefficients between current

liquidity and ROA within the same year, it is evident that most of them are negative (in 8 out of 10 years). However, the values are relatively low and close to 0. This means that, if there actually is a negative correlation between variables, it is very low. To test the significance of correlation, p-values were compared to the level of significance of 5%. The results confirmed that the low negative correlation is not statistically significant.

Table 7: Correlation matrix – current liquidity (CR) vs. return on assets (ROA)

	ROA 2008	ROA 2009	ROA 2010	ROA 2011	ROA 2012	ROA 2013	ROA 2014	ROA 2015	ROA 2016	ROA 2017
CR 2008	*-0.0123*	-0.0099	-0.0166	-0.0006	-0.0076	0.0120	0.0254	0.0197	-0.0223	0.0043
CR 2009	0.0202	*0.0108*	0.0000	-0.0078	-0.0026	0.0162	-0.0005	-0.0130	-0.0186	-0.0148
CR 2010	0.0244	0.0063	*-0.0019*	-0.0052	0.0008	0.0172	-0.0035	-0.0176	-0.0126	-0.0283
CR 2011	0.0256	0.0209	-0.0009	*-0.0069*	0.0021	0.0374	0.0099	-0.0161	-0.0142	-0.0285
CR 2012	-0.0231	-0.0224	**-0.1335**	-0.0260	*-0.0210*	-0.0155	-0.0451	-0.0308	-0.0049	-0.0252
CR 2013	-0.0485	-0.0137	-0.0418	-0.0126	0.0039	*-0.0033*	-0.0103	-0.0126	-0.0155	-0.0267
CR 2014	0.0046	0.0022	-0.0034	0.0058	0.0053	0.0135	*0.0009*	-0.0082	-0.0092	-0.0105
CR 2015	-0.0127	-0.0079	-0.0132	-0.0045	-0.0055	-0.0003	-0.0100	*-0.0170*	-0.0190	-0.0177
CR 2016	-0.0187	-0.0126	-0.0170	-0.0085	-0.0096	-0.0058	-0.0161	-0.0225	*-0.0234*	-0.0211
CR 2017	-0.0185	-0.0111	-0.0095	-0.0102	-0.0067	-0.0080	-0.0102	-0.0249	-0.0270	*-0.0242*

Source: calculated by the authors

The same results apply when ROE is used as the profitability indicator (Table 5). In 9 out of 10 years, there is a low negative correlation coefficient between current liquidity and ROE. In addition to low values, the correlation is again not significant at the level of 5%.

Table 8: Correlation matrix – current liquidity (CR) vs. return on equity (ROE)

	ROE 2008	ROE 2009	ROE 2010	ROE 2011	ROE 2012	ROE 2013	ROE 2014	ROE 2015	ROE 2016	ROE 2017
CR 2008	*-0.0089*	-0.0058	0.0053	0.0010	-0.0035	-0.0032	-0.0125	0.0042	-0.0178	0.0027
CR 2009	-0.0046	*-0.0027*	0.0019	-0.0077	-0.0059	-0.0109	-0.0255	-0.0129	-0.0173	0.0009
CR 2010	-0.0022	-0.0039	*0.0028*	-0.0060	0.0028	-0.0001	-0.0185	-0.0135	-0.0122	-0.0026
CR 2011	-0.0048	-0.0024	0.0043	*-0.0064*	0.0097	0.0045	-0.0327	-0.0098	-0.0075	0.0005
CR 2012	-0.0066	-0.0026	-0.0016	-0.0076	*-0.0135*	-0.0275	-0.0449	-0.0175	-0.0137	-0.0026
CR 2013	-0.0079	-0.0010	0.0008	-0.0017	-0.0005	*-0.0109*	-0.0392	-0.0035	-0.0091	-0.0034
CR 2014	-0.0041	-0.0015	0.0021	-0.0014	-0.0020	-0.0055	*-0.0115*	-0.0083	-0.0111	-0.0005
CR 2015	-0.0067	-0.0023	0.0010	-0.0034	-0.0053	-0.0104	-0.0161	*-0.0107*	-0.0139	-0.0020
CR 2016	-0.0079	-0.0025	0.0006	-0.0046	-0.0073	-0.0140	-0.0190	-0.0122	*-0.0163*	-0.0030
CR 2017	-0.0101	-0.0030	0.0029	-0.0043	-0.0074	-0.0205	-0.0221	-0.0161	-0.0283	*-0.0079*

Source: calculated by the authors

The results of the correlation analysis showed that in the short run there is no evidence of negative correlation between liquidity and profitability. Therefore, is was not confirmed that companies with high liquidity levels sacrifice their profitability, or that high levels of profitability require low levels of working capital. In other words, financial position or safety and financial performance are not opposed in the short run.

4.2.3. Correlation between liquidity and profitability in the long-run

In order to observe the correlation between liquidity and profitability in the long-run, the first test included dividing companies into quadrants, depending on their financial indicators. To distinct between liquid and non-liquid companies, as well as profitable and non-profitable companies, the values of each company's financial indicators were compared to median values at the level of section of activity. Median values of financial indicators are presented in Table 6. For example, in 2017 the most liquid section of activity according to median is 27 -

Manufacture of electrical equipment, while the most profitable section of activity based on ROE median is 62 - *Computer programming, consultancy and related activities*. After calculating medians for sections of activities, each company was distributed into one quadrant. If a company had both current liquidity and ROA above activity median, it was allocated into first quadrant. Companies in second quadrant are those with current liquidity above median, but ROA below median, while the third quadrant contains companies in the opposite situation. The fourth quadrant is for the companies that were not liquid and not profitable in a given year, due to both indicators below activity's median.

Table 9: Median values of selected liquidity and profitability ratios according to section of activity

Section of activity	Median of CR		Median of ROA		Median of ROE	
	2008	**2017**	**2008**	**2017**	**2008**	**2017**
01	1.35	1.56	1.81	0.91	8.17	2.42
10	1.76	1.46	1.71	2.48	4.40	5.90
16	1.67	1.56	4.48	4.65	12.24	11.68
17	1.98	1.99	1.52	2.85	4.06	5.11
18	1.50	1.02	0.33	0.39	2.11	1.71
20	2.92	1.69	3.61	3.80	9.94	6.82
22	1.42	1.48	6.02	2.15	13.54	4.69
23	2.15	2.23	3.54	6.67	7.70	9.80
25	1.55	1.55	5.73	4.90	18.52	9.67
26	1.75	1.89	5.00	4.21	10.72	11.47
27	1.95	2.39	4.85	4.47	10.21	8.93
28	1.24	1.72	1.93	5.96	8.72	13.28
31	1.50	1.92	1.87	1.83	2.55	3.03
35	0.85	1.19	1.31	3.53	4.59	6.57
36	0.31	0.10	0.02	0.03	0.04	0.12
38	0.94	0.82	0.24	0.31	0.88	1.22
41	1.53	1.73	1.18	0.60	5.40	1.63
42	1.36	2.03	3.38	3.71	9.64	9.49
45	1.42	1.64	3.09	4.15	12.80	9.23
46	1.49	1.80	5.16	4.45	14.84	11.31
47	1.14	1.32	2.82	4.96	12.39	12.65
49	0.78	0.83	0.06	1.82	0.55	5.92
52	1.42	1.93	3.09	1.26	7.30	1.75
55	0.92	0.94	0.01	1.50	0.01	2.79
62	1.73	1.27	21.40	12.84	50.00	29.37
68	1.01	1.74	0.19	0.59	0.29	1.49
70	0.91	0.78	0.03	0.49	0.60	0.55

Source: calculated by the authors

Table 7 presents initial position of companies and their migrations over the observed period. For example, first row (1-1) represents companies that were distributed into first quadrant in a certain year (from 2008 to 2016) and remained in the same quadrant in 2017. In 2008, a total of 261 companies was in the first quadrant and 143 kept their position in 2017. The others migrated into quadrant 2 (53 companies), quadrant 3 (33 companies) or quadrant 4 (32 companies). On the other hand, 250 companies were in the fourth quadrant in 2008, and 118 of them remained in the same position in 2017, while the other improved their situation and moved to quadrants 1, 2 or 3.

Table 10: Distribution of companies in quadrants based on values of their financial indicators – current liquidity (CR) and return on assets (ROA)

	2008 vs. 2017	2009 vs. 2017	2010 vs. 2017	2011 vs. 2017	2012 vs. 2017	2013 vs. 2017	2014 vs. 2017	2015 vs. 2017	2016 vs. 2017
1-1	*143*	*138*	*139*	*146*	*146*	*152*	*165*	*168*	*198*
1-2	53	49	46	53	50	53	50	51	41
1-3	33	34	30	36	28	27	26	27	19
1-4	32	36	33	24	25	25	22	11	13
2-1	46	49	50	42	49	46	48	50	36
2-2	54	58	67	68	70	75	74	80	95
2-3	*10*	*15*	*12*	*12*	*20*	*11*	*7*	*4*	*5*
2-4	*60*	*52*	*54*	*50*	*43*	*42*	*39*	*40*	*24*
3-1	49	56	53	54	52	50	41	41	23
3-2	*20*	*20*	*19*	*14*	*12*	*9*	*14*	*8*	*5*
3-3	51	52	61	52	65	72	79	81	94
3-4	*50*	*46*	*50*	*52*	*53*	*43*	*34*	*44*	*38*
4-1	33	28	29	29	24	23	17	12	14
4-2	33	33	28	25	28	23	22	21	19
4-3	66	59	57	60	47	50	48	48	42
4-4	*118*	*126*	*123*	*134*	*139*	*150*	*165*	*165*	*185*
Total	**851**	**851**	**851**	**851**	**851**	**851**	**851**	**851**	**851**

Source: calculated by the authors

According to the similar research conducted by Schwambach Viera (2010, 25-26), if the positive correlation between liquidity and profitability exists, companies in the first or fourth quadrants would remain in the same quadrants, since both high or both low indicators would prevent company from deteriorating or improving its position. If a company is in the second or third quadrant, it means that either its current liquidity or ROA is low, which would, if the relationship between the indicators is positive, lead to deterioration of the other indicator, causing migration from 2-nd quadrant to 3-rd or 4-th, or from 3-rd quadrant to 2-nd or 4-th.

Migrations that go in favor of the existence of the positive correlation between the variables are marked gray in Table 7. As it can be seen from Figure 1, the percentage of migrations that confirm the positive correlation is around 50% in all years (from 47% in 2008 vs. 2017 to 53% in 2016 vs. 2017). The remaining migrations therefore deny positive relationship and go in favor of negative correlation. Since neither significantly prevails, the correlation between liquidity and profitability (positive or negative) was not confirmed in the long-run.

The same procedure of classifying companies into quadrants was repeated using ROE as the profitability indicator. The results are presented in Figure 2 and lead to the same conclusion – the test did not confirm the existence of neither positive nor negative correlation between current liquidity and ROE.

Figure 1: Migrations of companies that indicate negative/positive correlation (ROA used as indicator of profitability; CR compared to activity median)
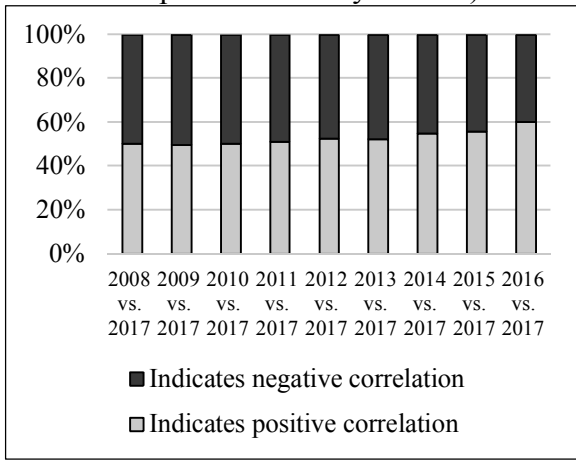
Source: created by the authors

Figure 2: Migrations of companies that indicate negative/positive correlation (ROE used as indicator of profitability; CR compared to activity median)
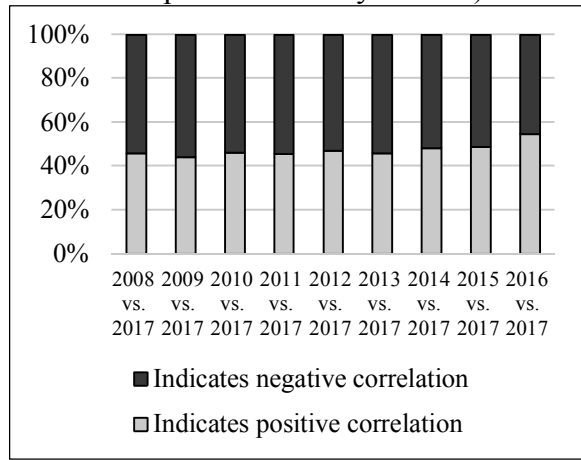
Source: created by the authors

Additionally, the test was performed using different criteria in distancing liquid and non-liquid companies. This time the calculated current liquidity was compared to 1. Companies with current liquidity above 1 were assigned to first or second quadrant, depending on the calculated ROA/ROE in comparison with its median. However, the repeated test yielded similar results, as showed in Figure 3 (using ROA) and Figure 4 (using ROE). The percentages of migrations that go in favor of positive or negative correlation are similar.

Figure 3: Migrations of companies that indicate negative/positive correlation (ROA used as indicator of profitability; CR compared to 1)
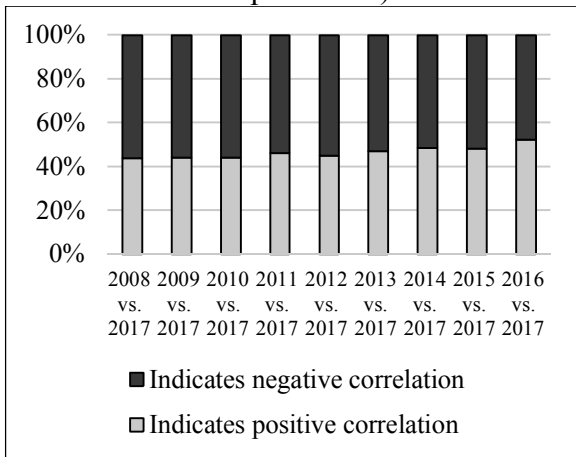
Source: created by the authors

Figure 4: Migrations of companies that indicate negative/positive correlation (ROE used as indicator of profitability; CR compared to 1)
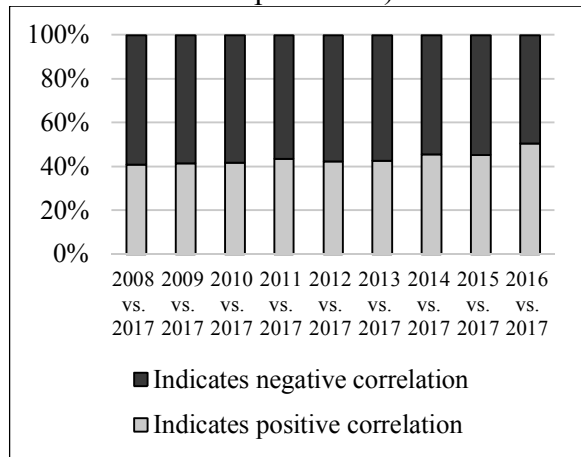
Source: created by the authors

The second type of test performed with the aim of testing correlation in the long-run included observing each company separately and calculating its Pearson correlation coefficient for the variables current liquidity and ROA/ROE. When ROA was used as a profitability indicator, 532 companies from the sample or 62.51% had positive correlation coefficient in the 10-year period, while the remaining 319 companies or 37.49% expressed negative correlation. The results are more even when using ROE as the profitability indicator: 464 companies or 54.52% indicating positive correlation and 387 companies or 45.48% indicating negative correlation. Therefore,

this does not go in favor of the hypothesis that liquidity and profitability are opposed in the long-run.

Apart from the direction of connection between the variables, the strength and statistical significance is also crucial. For Pearson correlation coefficient to be significant at the level of 10 observations, it is required that the coefficient is at least 0.63 (if the level of significance is 5%) or 0.55 (with 10% level of significance), as shown in Table 8. A relatively small number of companies had statistically significant correlation between selected financial indicators. For example, when calculating correlation coefficient between current liquidity and ROA, only 21% of companies from the sample had statistically significant correlation. However, out of those companies with statistically significant correlation, in case of 77% of companies the correlation was positive, while 23% expressed negative correlation.

Table 11: Results of the correlation analysis during 10-year period when each company was considered separately

Level of significance	10%				5%			
Limit value of Pearson's correlation coefficient (in order to be significant with N=10)	0.5494				0.6319			
Used profitability indicator	ROA		ROE		ROA		ROE	
No. /% of companies with a significant correlation coefficient for a 10-year period	247	29.02%	215	25.26%	181	21.27%	136	15.98%
No. /% of companies with a positive and significant correlation coefficient for a 10-year period	186	75.30%	119	55.35%	140	77.35%	83	61.03%
No. /% of companies with a negative and significant correlation coefficient for a 10-year period	63	25.51%	98	45.58%	41	22.65%	53	38.97%

Source: calculated by the authors

Therefore, research results have shown that the correlation between current liquidity and ROA/ROE in the short run in usually negative, but not statistically significant. Similarly, in the long-run, statistical significance between the variables is again an issue. Nonetheless, for those companies that experienced significant correlation, the correlation is primarily positive. The hypothesis that financial position or safety and financial performance are two opposed criteria cannot be accepted.

5. Conclusion

The relationship between financial position or safety and financial performance of a company has always been an important issue of consideration among both scientific and professional community. The primary focus was usually on liquidity and profitability. In theory, there are arguments for both positive and negative correlation between these two variables. The trade-off theory suggests that companies have to choose between high liquidity and high profitability, because investing in working capital as a liquidity reserve brings actual and opportunity costs that negatively affect profitability. On the other hand, it could be claimed that companies with high liquidity are more flexible in taking investment opportunities, while high profitability in the long-run usually means constant cash flows, provided that the company does not have collection issues. Previous research has shown that there is no universal conclusion regarding the correlation between liquidity and profitability measures. It was confirmed that the results depend on the used indicators, length of the observed period, economic conditions such as stage

of economic development and past issues, etc. Therefore, some researchers favor the existence of negative correlation, while others concluded that the correlation is positive or not significant.

The empirical research conducted on a sample of non-financial companies in Croatia showed that the relationship between the variables differs in the short-run and the long-run. Within a certain year, the correlation between current liquidity and ROA/ROE is primarily negative, but not statistically significant. In the long-run, i.e. over the period of 10 years, most companies again do not have a statistically significant correlations between the observed indicators. However, for a portion of companies that experienced a significant correlation, the correlation coefficient is mostly positive. Although the research is conducted on a large sample of companies over the 10-year period, the main limitation of the research is that the results are based primarily on calculated Pearson correlation coefficient. The research can be extended in the future by including controlling variables and applying regression analysis.

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A scientific paper

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WHO HAS MORE DEVELOPED PERFORMANCE MEASUREMENT IN CROATIA? PUBLIC HOSPITALS OR HIGHER EDUCATION INSTITUTIONS

ABSTRACT

Public hospitals and higher education institution are an important part of the Croatian public sector for several reasons. The importance of the services they provide is exceptional, and these services are used by most of the population. According to that, the financing or the allocation of significant budget funds is also related to these two sectors. Since they use budget (public) funds, it is important how they manage them. The paper aims to investigate the extent to which managers of public higher education institutions and hospitals use performance indicators as a tool for effectively managing limited public resources. The objectives will be achieved by conducting a survey and analysis of results. A survey questionnaire was prepared and sent to all Croatian public higher education institutions and hospitals at the beginning of 2018. The questionnaire answered 41% of higher education institutions and 36% of the hospitals. Although both types of institution represent budgetary users, there are similarities, but also differences in their organization, the way they perform activities and the way of allocating budget funds. Results show that there are some differences in usage of performance measurement instrument between public hospitals and higher education institutions in Croatia, but in the most aspects they are the same. Higher education institutions are more aware of the importance of strategic planning, and their managers have more developed information needs. However, in other aspects like performance indicators development, comparison and reporting of performance measurement results, usage of performance measurements for decision-making purposes and managers' opinions about the importance and possibilities of their use in business processes are similar. In addition to empirical research, the analysis of relevant world literature from the field of performance measurement of public hospitals and higher education institutions will be carried out. Also, the management system and the financing of these institutions in the Croatian public sector will be explored and presented.

Key words: *performance measurement, management, higher education institution, hospital, Croatia.*

1. Introduction

Budget expenditures for education in Croatia amount 4.7% of GDP (higher education is up to 1%), which is in line with EU average of 4.9% of GDP (Sonje et al., 2018, 2317, Eurostat, 2017). Government spending on health care in our county is about 6.2% of GDP per year (Eurostat, 2019) and the EU average is 7% of GDP. It is obvious that the level of public expenditure in these two sectors is high, and the user's needs are even larger. Because of the limited budgetary possibilities, one of the main questions that arise is how effective is the use of these funds, and how successful is the business management of these budgetary users?

The challenges that public hospitals and higher education institutions face around the world include: delivering quality service to everyone who is entitled to it, raising awareness of different stakeholders needs for a high quality and comprehensive information about services and institutions as a whole, contribution to regional development, increasing costs with limited budget resources, the need for greater accountability and trust (Brandao et al., 2013, 392, OECD, 2008, 12, Johnstone, 2009, 1, Zalec, 2013, 67, Smith, 2008).

To meet many challenges and ensure efficient and effective management of the business, public managers must think strategically and entrepreneurially (Taylor and Machado, 2006, 138, Newton, 2003). In their management process, to make successful decisions, they need to move from the traditionally bureaucratic system to cost monitoring, output control and performance measurement. They should rely on entrepreneurial business principles according to the philosophy of New Public Management (Jeurissen et al., 2016, 16, Pollit et al., 2007, Ocampo, 2000, Hood, 1991). The public value paradigm is driven by customer demands in a way that the public sector creates generate trust or fairness, not only through outputs but also through processes, services, laws regulation and other actions (O'Flynn, 2007, Kelly et al. 2002).

Performance management can be defined as the process of defining goals, selecting strategies to achieve those goals, allocating decision rights, and measuring and rewarding performance (Verbeeten, 2008, 430). Performance management and measurement systems can have different roles in public sector organisations. For Hansen and Van der Stede (2004), performance management is useful in operational planning, performance evaluation, communication of goals and strategy formation. Henri (2006) argues performance measurement system used for: monitoring, attention focusing, strategic decision making and legitimization. Performance management and measurement system include systematic, regular and comprehensive capturing, measurement, monitoring and assessment of crucial aspects of organisational and individual performance through explicit targets, standards, performance indicators, measurement and control systems (Diefenbach, 2009). Performance measurement provides the basis for an organisation to assess how well is progressing towards its predetermined objectives, helps to identify areas of strengths and weaknesses, and decides on future initiatives, intending to improve organisational performance (Purbey et al., 2006).

According to McIntyre (2001, 9), the first attempt of performance measurement in health care system occurred more than 250 years ago. Technological and medical advances, the complexity of customer requirements, well-informed healthcare system stakeholders and an ageing population have made it difficult to manage hospital institutions recently (Elg et al., 2011). To meet the many challenges of successful management, healthcare institutions are struggling to find adequate governance models. Many professionals recognize performance measurement as an option in various parts of the system for public transparent reporting, resource funding, administrative control, development and improvement of clinical practice (Elg et al., 2013). Studies report that public disclosure of the results of hospital performance measurement encourages quality improvement activities (Hibbard et al., 2003). Rahimi et al.

(2016) propose Balanced Scorecard model as suitable for evaluating and comparing hospitals' performance.

Public higher education institutions to meet the many challenges of today, such as the budget constraints, demand for increasing the quality of public services, internationalization and competitiveness, the need for greater accountability because of increased autonomy and deregulation institutions, have to be publicly accountable and to show how they put value on money (Campbell and Rozsnyai, 2002, Matei, 2009, Coste and Tiron-Tudor, 2015). Performance indicators are required to improve the quality, accountability and performance of higher education institutions. These indicators ensure the performance of university operating, encourage each university to improve its' disadvantages, and ensure university competitiveness (Chen et al., 2009). There have been a lot of studies about use and consequences of performance indicators in European universities (Lewis et al., 2007, 204) like in UK (Melo et al., 2010, Ball and Wilkinson, 1994), Australia (Guthrie and Neumann, 2007, Taylor, 2002) and New Zealand (Peters, 1992).

2. Management and financing of public hospital and higher education institutions in Croatia

This chapter will discuss the basic characteristics of the activities and financing methods in the higher education and health care system in the Republic of Croatia. Higher education and health care system in Croatia represent the area of public interest in which the public sources of funding (the budget) are prevalent and regulated in terms of the way of doing business, methods of financing, accounting and financial reporting and other business segments.

Higher education is predominantly organized through universities and its constituent units and it is necessary to observe it in correlation with scientific research. Particular emphasis is placed on the quality of the system of higher education and thus enables accreditation of new and re-accreditation of existing higher education institutions according to the system that is compliant with the European Standards and Guidelines (Standards and Guidelines for Quality Assurance in the European Higher Education Area, ENQA, 2015), and is conducted by the independent accredited agency - Agency for Science and Higher Education following the Quality Assurance in Science and Higher Education Law (Official Gazette No. 45/2009). Such normative and administrative regulation of the quality system in higher education was established after the implementation of the higher education institutions establishment process in Croatia and did not have a necessary influence on the current development (Budimir at al., 2018, 9).

According to the assessment presented in the Strategy of Education, Science and Technology of the Republic of Croatia, the existing network of higher education institutions in Croatia covers all parts of Croatia, but exceeds the national potential and results with unsustainable high enrollment quota (Croatian National Strategy for Education, Science and Technology, 2014, 108).

Financing of higher education and science from public and other sources in Croatia is extremely complex and encounters funding specifics that are adjusted to the characteristics of teaching and scientific activity. It is not easy to establish financing model that should address multiple challenges: to make higher education accessible to as many students through public funding, to ensure the competitiveness of scientific and teaching activities in national and international context by taking into account the autonomy of universities and government strategies, to regulate public funds spending, to establish transparent basis for complete higher education institutions funding, to establish "value for money" and to present the

achievement of the strategies and objectives of higher education institutions and their contribution to the society development in a comparable manner (Budimir et al. 2018, 9).

Financing the activities of higher education from budget sources is dominantly carried out through lump-sum model. Financing of infrastructure, i.e. teaching and research facilities and facilities of student standards from national budget sources, EU funds or other specific sources, are reported separately from funds intended for carrying out regular activities and is emphasized as a separate budget item in the Ministry of Science and Education budget. Higher education institutions can generate non-budget revenues that are defined as special purpose revenues and own revenues. Special purpose revenues primarily relate to income from students' participation in study costs (part of tuition fees) while their own income is defined as revenue from various projects, elaborates and expertise, publishing activities, renting space and equipment and similar revenues.

In a search for the best model of higher education financing in Croatia, the Ministry of Science and Education has started cooperation with the universities to implement program contracts. The implementation of program contracts assumes decentralization of decision-making on the spending of resources, meaning that higher education institutions need to achieve the best ratio between autonomy and accountability for results and to develop management and operational mechanisms that will ensure the implementation of program contracts. Implementation of program contracts requires professional management mechanisms: new public management, management and cost accounting instruments, internal control system and financial responsibility.

Health care in Croatia is provided on the entire territory as a public service and is aimed at the entire population. The Health Care Act (Official Gazette No. 100/2018) regulates the healthcare principles and measures of health care, the rights and obligations of healthcare beneficiaries, the authorities competent for public healthcare, the content and organisational forms of the provision of healthcare and the supervision of its provision. Everyone is entitled to healthcare and the possibility of the achievement of optimal health level. Healthcare in the Republic of Croatia has been organized on four levels: primary (health centres and nursing homes), secondary (polyclinics, hospitals, health resorts), tertiary (clinics) and health care institutions. Sources of funds and total resources required for the provision of healthcare are limited and health needs, driven by advances in scientific knowledge and health awareness, are increasing and there appears the gap between the demand for health services and the possibilities of their financing.

The healthcare financing system can be classified into three models depending on what is the predominant source of financing: the mandatory health insurance model (Bismarck's model), national healthcare (Beveridge's model) and the market model. The health system in Croatia does not function solely according to a single financing model. It is a combination of Bismarck's model based on mandatory insurance (allocated from salaries) and Beveridgev's model based on budget revenues, in case of a deficit of income based on compulsory health contributions.

The financing system in Croatia is predominantly public and the role of private health insurance is negligible. Approximately 80% of the cost of healthcare is financed from compulsory health insurance contributions. The remaining 20% of the cost covers general budget revenues, as well as additional and private health insurance (Croatian Health Insurance Fund, 2019). Funding of health services is performed by the Croatian Health Insurance Fund, which collects revenues (contributions for health insurance and other income) and distributes them to healthcare providers.

The allocation of funds to healthcare providers includes several mechanisms. The payment of primary health care in the health centres is carried out through the principal - the amount per insured person (patient), by paying certain services according to the diagnostic-therapeutic procedure, by participating in special preventive programs. Payment of secondary and tertiary health care (polyclinics, hospitals, health resorts, clinic centres) is based on monthly budgets – limits and the institutions should justify the provided services.

Financing of healthcare institutions from the budget is decentralized and budgetary funds are intended for investment and maintenance of facilities and equipment. In addition to the mentioned sources of funding (contribution for health insurance and general budget revenues), health institutions can earn revenues from other sources: the share of user services in the price of services rendered and other market revenues.

Public institutions such as higher education institutions and health institutions are financed from budgetary funds and are obliged to apply the provisions of the Budget Law and the implementing regulations of Budget Law as well as several other regulations in the area of budget and public finances (fiscal responsibility, financial management and control etc.). They are obliged to conduct budget accounting and compiling reports according to the Budget Act (Official Gazette 87/08) which regulates the area of accounting and financial reporting (Chapter IX Budget Accounting) and reporting on budget execution (Chapter X Semi-annual and Annual Budget Execution Report). The framework for accounting and financial reporting has a general-purpose and does not reflect all the specifics of the activities and sources of funding for public higher education and healthcare. Financial reporting is focused on external requirements, i.e. the requirements of the ministries in charge and the Ministry of Finance. In such a model of financing and reporting higher education institutions and health institutions do not have external incentives, neither did they develop internal incentives for the development of internal accounting instruments (Dragija, 2014, Dragija et al., 2017), management and cost accounting (Vašiček et al., 2011) as well as the development of performance indicators (Budimir, 2011). Therefore, the results of the conducted research should be understood in the above-mentioned context.

3. Performance measurement in public hospitals and public higher education institutions in Croatia

3.1. Objectives and research process

The paper aims to investigate who has more developed performance measurement in Croatia, public hospitals or public higher education institutions, and to what extent do they apply the results of performance measurements for decision-making purposes. New in our study is a comparison of research results for two important parts of the public sector, hospitals and higher education institutions. Both types of institutions are part of the public sector and should have the same goal, rational management of limited budget funds. Our objective is to determine by which intensity they use important performance measurement information and if they use them at the same level. In case of significant differences, a more detailed analysis of the causes that were not the subject of this research should be conducted.

The objectives are achieved through conducting a survey and analysis of results. A survey questionnaire was prepared and sent to all Croatian public higher education institutions and hospitals at the beginning of 2018. The questionnaire was addressed to the managers of public institutions. According to the Agency for Science and Higher Education (2018), there are 131 higher education institutions in Croatia, of which 104 are public, and 27 are private. The questionnaire answered 43 or 41% of the institutions. According to the Ministry of

Health (2018), there are 59 public hospitals in Croatia. The questionnaire answered 21 or 36% of the hospitals.

3.2. Results of empirical research

Strategic management of public institutions' activities is a legal obligation (Budget Law, 2008). However, strategic plans are not just an obligation; they are a precondition for successful management of all business entities so as budgetary users. To determine whether the public sector hospitals and higher education institutions define strategic goals and follow their realisation, in the first part of the questionnaire, we asked them about the existence of strategic goals and reporting about the realisation of the strategy related to the activities of employees in the function of strategy implementation. Chart 1. shows that more public higher education institution in Croatia has developed strategic goals than public hospitals. The reason for that is probably because higher education institutions are regularly evaluated by Agency for Science and Higher Education through reaccreditation process in accordance to European Standard and Guidelines (ENQA, 2015) which prescribe strategic planning as the basis for higher education institutions' business management.

Chart 1: The existence of strategic goals in public hospital and higher education institutions in Croatia
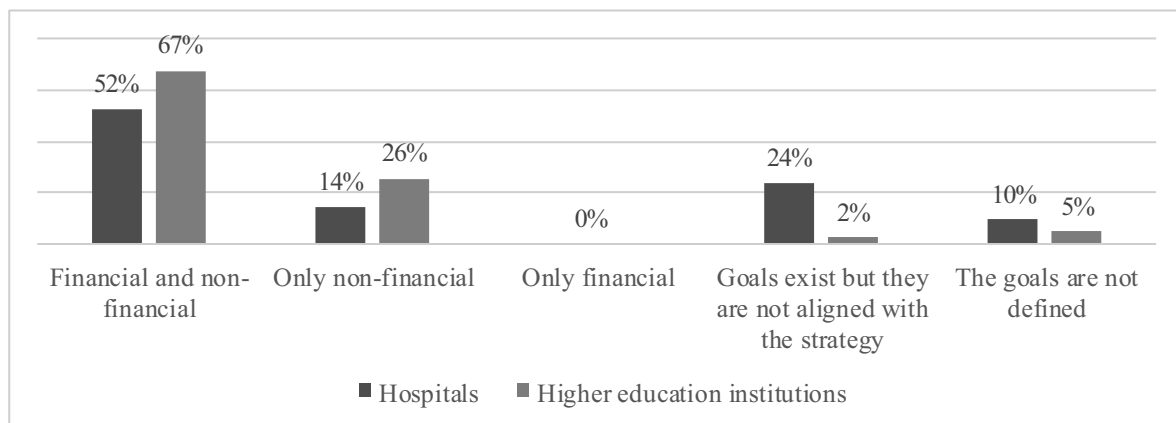
Source: Author's research

Since strategic planning is more common in higher education than in health care, it is understandable that reporting about the realisation of the strategy exists or mostly exists in 75% of public higher education institutions and only in 52% of public hospitals in Croatia.

For a successful implementation of the strategy, all employees need to understand strategic goals, at all levels of the internal system, and to inform them about the results achieved within the institution. Results of the empirical study are presented in Chart 2. It is interesting that although higher education institutions have more developed strategic planning when it comes to information about the implementation of plans, they are more oriented to higher levels of management and annual reporting while hospitals present results throughout the year and to the lower levels of management. Generally, at the level of both systems, we can conclude that reporting on business results is mostly related to annual reporting and is very rarely oriented to all employees within the institution.

Chart 2: Presentation of results within the institution
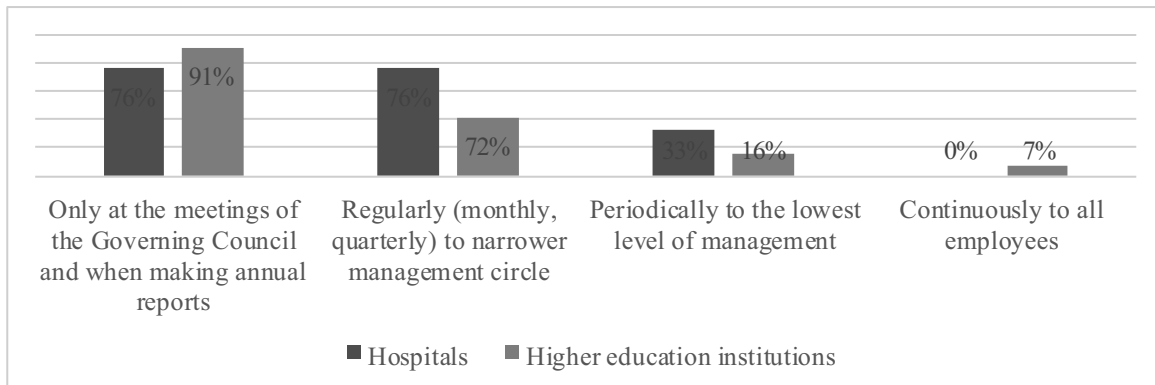
Source: Author's research

These results are in correlation with answers to the question about the information needs of public managers. Namely, managers have been asked whether the information presented in the basic financial statements is sufficed for successful business management of the institution. More than 67% of higher education institutions' managers think that this information is mostly or completely sufficient. Managers of public hospitals are more aware of their insufficient for the decision-making process, but also a high percentage of them (57%) think the same as managers of higher education institutions. These results are in line with the responses of Croatian public managers collected in the survey conducted in 2009 (Budimir, 2011, 110) when 79% of budget users answered that the information contained in the annual financial statements is sufficient or largely sufficient for successful management. The basic financial statements are more oriented to external users than managers. For successful business management, a wide range of financial and non-financial information is required.

To determine who has more developed performance indicators in Croatia, public sector hospitals or higher education institutions, we asked how they measure performance. The results, shown in Chart 3, show that as the most commonly occurring forms appear periodic and annual reports (for 62% of hospitals and 47% of higher education institutions). The responses above are again in correlation with the beliefs of public managers that annual reports are sufficient for management purposes. Despite that, some of the respondents conduct a continuous measurement of financial and non-financial performance indicators (more in higher education than in health care). Such results can be linked to the recommendations provided by the ESG standards (ENQA, 2015, 14) on the need to define and monitor key performance indicators in higher education. However, still, less than half of the higher education institutions are continually measuring and tracking performance based on indicators.

Most of the respondents (70% for higher education institutions and 85% for hospitals) define performance indicators based on the need to inform the budget in charge. Own indicators, defined for internal needs, have 56% of surveyed institutions in both sectors. The results indicate a strong correlation between information requirements of the budget authority with public institutions' performance measurement. In hospitals, this link is strengthened, and the reason for this probably is in the fact that public hospitals every year go through the performance measurement evaluation and ranking based on the given sectoral indicators (Croatian Health Insurance Fund, 2014).

Chart 3: Performance measurement modes
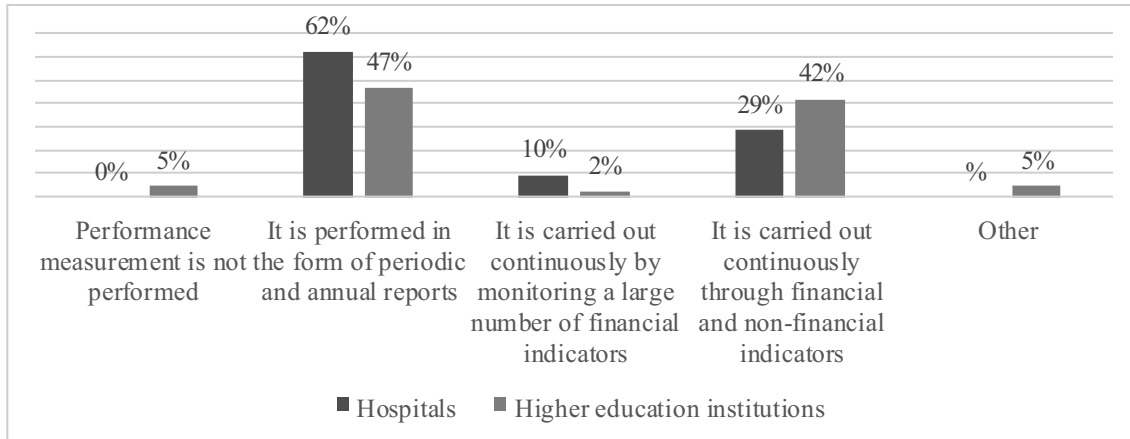
The most important aspects of the monitoring for higher education institutions are professional and scientific-research work (84% of respondents) and resources - material and financial (79% of respondents). Hospitals' performance tracking is most often based on quality (62%) and patients (52%).

Comparison of performance indicators conducts more than 90% of public hospitals and 74% of public higher education institutions. The results of the performance measurement they monitor through time (42% of respondents from higher education and 74% of respondents from hospitals) or compare it with default size (plan) (44% of respondents from higher education and 52% of respondents from hospitals). Only a small part of the institutions (21% of higher education institutions and 33% of hospitals) compares the results with other similar institutions. Comparing performance measurement results is more frequent in hospitals than in higher education. The reason for that probably is already mentioned external evaluation and ranking of hospitals by the Croatian Health Insurance Fund. The comparison of the achieved results with the set goals, previous results and the results of similar institutions is important for assessing the success of achieving strategic goals and program results. It is also important for the economy, efficiency and effectiveness of budgetary users' performance.

Short-term (daily and weekly) decisions are partially based on the results of performance measurement and the majority of the respondents rated it by grades 1-3. Medium-term (monthly) decisions are more based on performance results, but the largest number of respondents use the results of performance measurement in the process of making long-term (strategic) decisions. We can conclude that performance measurement is not of great importance for making day-to-day decisions for higher education institutions, but as the decision-making period is prolonged, the importance of performance measurement is increasing. Hospitals, on the other hand, equally use the results of performance measurement regardless of the time frame for decision making.

To determine the level of use of the performance measurement results in business decision-making, we asked about the importance of performance indicators in business processes such as planning, informing, control, improvement, quality assurance and transparency. We asked respondents about the current state of the use of indicators in business processes and their opinion on the need for their usage. Respondents evaluated the importance from 1 (minimum importance) to 5 (the highest importance).

From Chart 4, it is visible that the observed budgetary users use performance measurement results partially in the planning and allocation of resources. Higher education institutions

partly use performance indicators to improve their business and for monitoring also, but its usage in hospitals is significantly lower. Public managers are aware that the use of performance measurement in these processes should be significantly larger and more significant and that is positive. For all processes, they rated it with high 4.6 and higher average grade.

Chart 4: Importance of performance indicators for planning, monitoring and enhancement
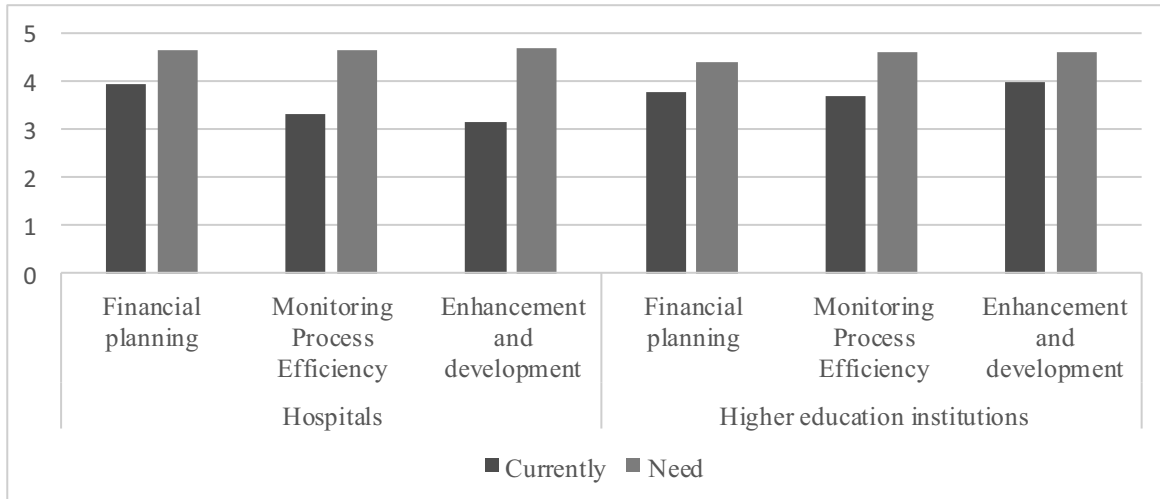
Source: Author's research

Hospitals and higher education institutions as budgetary users also partially use performance measurement results for internal and external business control. Performance indicators provide managers and bodies in charge (ministries) with high-quality information to monitor business activities, provide analysis of the resources spent and results achieved and performance monitoring. As can be seen in Chart 5, public managers are aware of their even greater significance and potential for use, especially in internal control processes. Given the developed awareness of the importance of using performance indicators in internal business control procedures, the question arises as to the discrepancy in their application.

Chart 5: Importance of performance indicators for internal and external control
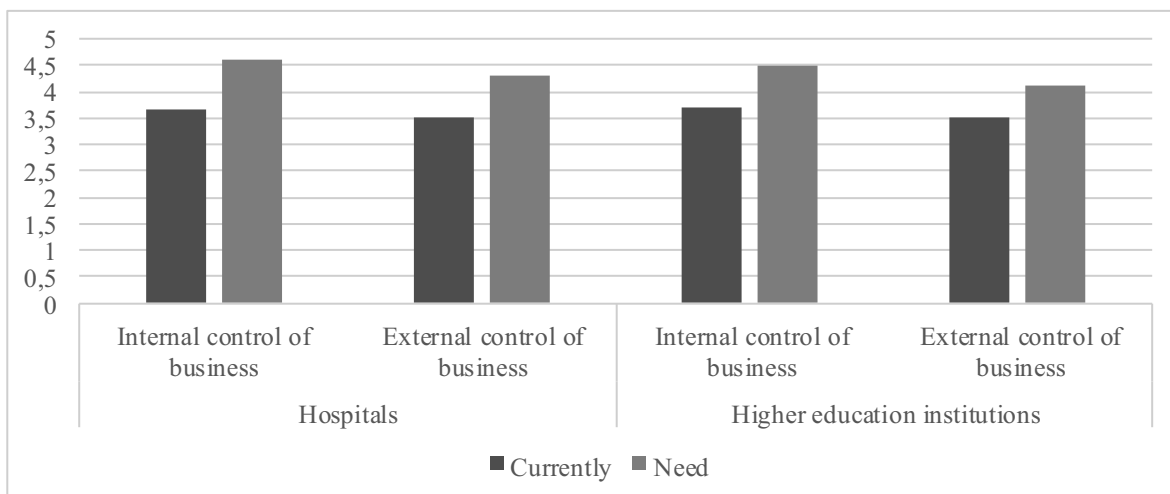
Source: Author's research

Performance indicators are partially used for employee rewarding and motivation purposes in higher education institutions (average grade 3.3) and rarely in hospitals (average grade 2.1), but public managers are aware of their greater usability (average rating 4.1). Performance indicators are not used for punishment purposes in both sectors, but managers believe that

they need to be used to some extent (average rating 2.8 for higher education institutions and 3.14 for hospitals).

Performance indicators have high importance in quality assurance procedures of higher education institutions (average rate 4), but they are only partly used for that purpose in hospitals (average rate of 3.48). Hospitals rarely use performance indicators in the self-evaluation process (average rate 2.76) while higher education institutions apply them more (average rate 3.7). However, again, public managers are aware that they could be used more in the evaluation process (average grade 4.5).

While performance indicators are a powerful tool for comparison with other similar institutions, their use is not very common in Croatian budgetary users (average grade 3.1). The managers of these institutions are aware of the greater usage possibilities, in hospitals (4.2) more than higher education institutions (3.7). The use of performance indicators in internationalisation processes is low (average grade 3.2 for higher education institutions and 2.19 for hospitals), while awareness of the possibilities of usage is more developed in both sectors (4.0).

As can be seen in Chart 6, performance indicators are not used to a significant extent for informing the public (average grade 3 for higher education institutions and 3.24 for hospitals) although awareness of their relevance to public managers is a bit more developed (average grade 3.6). Their use in increasing transparency is moderate (average rating of 3.7) for higher education institutions but much lower for hospitals (average grade 3.14). They all see greater future use opportunities (average grade of more than 4.2).

Chart 6: Importance of performance indicators for transparency and informing the public
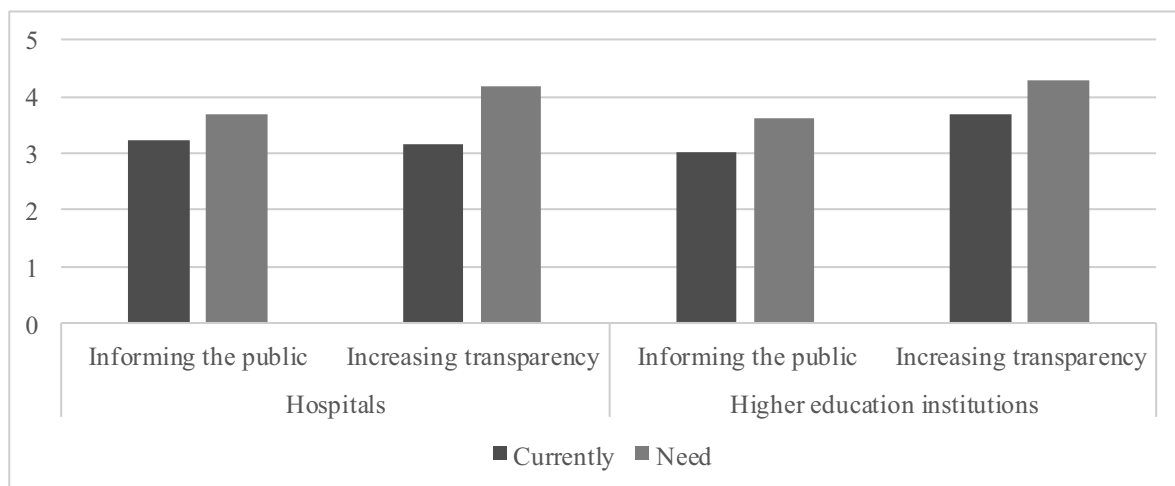
Source: Author's research

Most managers of both types of institutions consider it necessary to define sectoral performance indicators at the state level. They also consider it necessary to define these indicators at the global (European) level.

The most significant indicators that higher education institutions measure include: number of students enrolled, student passage, average student rating, duration of study, student satisfaction, employability of completed students, ratio of student/teacher, results of student assessment for teacher evaluation, teaching excellence, budget implementation, total student expenses, earnings per employee, income by study modules, business efficiency. Hospitals performance indicators measurement includes customer service satisfaction, mortality rate, number of patients, duration of treatment, number of cases, number of repeated admissions,

patient turnover per bed, capacity utilisation, financial results, cost-effectiveness analysis, cost-per-business analysis.

Based on the analysis of the results, we conclude that Croatian public higher education institutions and hospitals to a certain extent apply the results of performance measurements for decision-making purposes. The level of usage differs depending on business processes within the institution. In higher education institutions their usage is most prominent in quality assurance procedures, improvement and development. Croatian hospitals performance indicators partially use for planning, monitoring and quality assurance of services through the adoption of long-term (strategic) decisions.

4. Conclusion

Analysis of research results showed that there are some differences in usage of performance measurement instrument between public hospitals and higher education institutions in Croatia, but in the most aspects they are similar. Higher education institutions are more aware of the importance of strategic planning and reporting about achieved results. They also have a bit more developed performance measurement system through an internally developed system of performance indicators. On the other hand, public hospitals' managers make more efforts to inform the results achieved through lower management levels, and they are more aware of the need to develop an internal reporting system for successful business management. They also use the results of performance measurements for different comparisons (through time, with default plans and other similar institutions). In other aspects like usage of performance measurements for decision-making purposes and managers' opinions about the importance and possibilities of their use in business processes, they are quite similar. Managers of both types of public institutions use performance measurement results only partially when making business decisions, but they are fully aware of their great benefits in successful business management.

The limitation of this research is in the interpretation of questions and results. Namely, the questionnaire was forwarded electronically, and there is a possible lack of understanding of the questionnaire by hospitals' and higher education institutions' managers. Also, the managers of these institutions are not professional, and their management knowledge may be limited. It is therefore recommended for future studies to interview with individual managers to obtain a deeper and more complete picture of their management needs and possibilities.

Since there are rare researches about the usage of performance measurement in budgetary users' management in Croatia, the contribution of this work to the academic community is visible in presenting the results. The amount of budget funds belonging to hospitals and higher education institutions is considerable, and therefore there is a large need for their effective management. Presented research encourages the general public to monitor the management of these institutions critically. We believe that research will help researchers in Croatia, and other countries, to gain an insight into the importance of good governance information bases and to make a comparison between countries. Also, the conducted research opens space for further researches as to how the performance indicators are used by financiers - the state and the funds, in allocating limited budget funds.

Given the importance of effective governance in all parts of the public sector, we believe that our work is important to the management structures of the investigated entities as well as to other budgetary users, service users, taxpayers, the budget in charge and legislators.

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FINANCIAL BEHAVIOUR AND WELL-BEING ATTITUDES

ABSTRACT

Financial behaviour is the weakest assessed component of Croatian citizens' financial literacy. A particularly vulnerable group are persons belonging to the age group up to 19 years and the age group of 20 to 29 years. Very often the underlying problem is unarticulated general and financial consumption. Many contemporary kinds of research are trying to give answers on financial literacy challenges and create appropriate approach in giving a knowledge that will ensure individuals to achieve more efficiency with financial behaviour which represents a prerequisite for financial well-being and a higher level of quality of life. It has become very clear that financial behaviour issues need to be observed from different points of views, with special attention to relation with financial knowledge and consumer's psychology issues. Financial consumption represents a result of financial activities on which financial literacy and especially financial behaviour have a direct impact. The survey investigates how attitudes toward well-being and quality of life correlate with attitudes toward financial behaviour and knowledge on specific financial products consumed. Among other foundings results show that satisfaction of the level of knowledge on financial products examinees tend to consume is very low. Based on research results need for further multidisciplinary development of an approach to financial behaviour of individuals has been established.

Key words: *financial behaviour, financial well-being, well-being, quality of life.*

1. Introduction

Many contemporary types of research undertaken on different age groups in different countries have shown that the general public has different levels of financial literacy. Financial literacy is the totality of consumer knowledge about finances, while financial behaviour represents the capability to put in practice knowledge about finances in everyday life, in situations where there is need to adopt and implement financial decisions that are essential for the development of consumer's finances. By the most basic definition, financial literacy relates to a person's competency for managing money (Remund, 2010, 279). All the process of managing personal finances today requires following current information on financial products, also understanding them which necessarily requires the process of complete financial education.

Financial literacy is a component of human capital that can be used in financial activities to increase expected lifetime utility from consumption (i.e., behaviours that enhance financial well-being) (Huston, 2010, 307). Moreover, low levels of financial literacy have been linked to suboptimal financial behaviour likely to have long-term consequences (Stopler & Walter, 2017). Financial literacy defined by the organisation for Economic Co-operation and Development (OECD) is a process in which financial consumers/investors improve their understanding of financial products and concepts and through information, instruction and/or objective advice, develop the necessary skills and security to become more aware of financial risks and opportunities, to make informed decisions, to know where to turn for assistance and to take other effective measures to improve their financial Well-Being (OECD, 2005, 13). It is a process with which the individual is provided with knowledge for a simpler choice in the daily adoption of financial decisions. Quality information is very important for making all decisions, as it changes the image and the flow of personal finances in its way, starting with decisions that we believe do not have significant impacts on the personal financial situation such as the extraction for everyday necessities until the selection of product types that ensure the collection of life savings or long-term borrowing that bring crucial changes in quality of life.

The OECD underlines the importance of financial literacy for the population as a key component of their success. In the International competency research of financial literacy, using the globally recognised instrument of the OECD, 30 countries and economies from Africa, Asia, Europe, Australia, North America and South America participated. The report of this survey specifically focuses on the relevant aspects of financial knowledge, behaviour, attitudes and inclusion and insight into the financial literacy of the population and their needs in terms of education and other forms of support.

The survey results show that the overall levels of financial literacy, marked by the combination of the results of knowledge, attitudes and behaviours, are relatively low. The average score in all participating countries is 13.2 points from a possible 21 (a combination of a maximum of 7 for knowledge, 9 for behaviour and 5 for attitudes). Levels of financial literacy are lower than can be expected for various reasons (OECD, 2016, 3). In some cases, a prominent problem is a piece of knowledge, while in other problematic behaviours. Some countries with a higher average level of financial knowledge have relatively low overall levels of financial literacy due to their financial behaviour. Some countries may need to develop knowledge with behaviour, to ensure that their population understands the principles of financial literacy and becomes more successful in managing money. In addition to the individual's abilities, various other factors influence financial decision making: experience, skills, information processing, age, economic and social environment, and other specific factors (Buljan Barbača, Čobanov, 2018, 944). The fact that levels of financial literacy are so similar across countries with varying levels of economic development - indicating that in terms of financial knowledge, the world is indeed flat - shows that income levels or ubiquity of complex financial products do not by themselves equate to a more financially literate population (Lusardi, 2019, 3). Implications of poor financial judgements usually influence the quality of life of individuals and households which creates the necessity of observing financial behaviour in the context of quality of life.

Scientists and each individual are interested in the quality of life and subjective satisfaction. Many areas are studying the quality of life, so we have, among others, the CDC's Health-Related Quality of Life (Hennessy et al., 1994, according to Hagerty, et al., 2001) and the Economic Well-Being Index (IEWB) (Osberg & Sharpe, 1998, 1999, 2000, according to Hagerty, et al., 2001) quality of life. The World Health Organization defines the quality of life as a person's perception of his or her own life in the context of the cultural and value system in which he lives and concerning his goals, expectations and limitations (World Health Organization, 1997). In the mid-twentieth century, quality of life was synonymous

with the standard of living, and research was in the field of economics. Later research focused on perceptions of meeting personal and social needs and differentiated between subjective and objective indicators of personal quality of life, changing the dominant discipline of research, definitions (Diener & Suh, 1997) and associated instrumentation. The Eurostat definition of quality of life covers objective factors (material resources, health, working status, living conditions) and subjective perception of objective factors. Research indicates that the richer societies are, the more one's economic well-being is affected by social contacts, emotions and personal satisfaction than income. (Diener & Seligman, 2004). Research is largely multidisciplinary and attracts the interests of sociologists, statisticians, psychologists, economists, political scientists and, ultimately, experts in public policy-making. (Noll, 2004). According to Kaliterna Lipovcan and Prizmic-Larsen (2006), the assumption is that the economic well-being of a society is most influenced by material goods and well-being. From student loans to mortgages, credit cards, mutual funds, and annuities, the range of financial products people have to choose from is very different from what it was in the past, and decisions relating to these financial products have implications for individual well-being. (Lusardi, 2019, 1). According to De Neve et al. (2013) experience happiness and well-being drives the pursuit of goals and the building of competencies that lead to resilience to potential life problems and challenges.

1.1. Financial behaviour

Financial behaviour can be defined as any human behaviour that is relevant to money management. Common financial behaviours include cash, credit, and saving behaviours. (Xiao, 2008, 70). Financial behaviours are positive or desirable behaviours recommended by consumer economists as ways to improve financial well-being. (Xiao, Tang & Shim, 2009, 55). Financial behaviours should demonstrate consumer financial capability. (Xiao, Chen & Chan, 2013). Financial behaviour could be defined as an operationalization of financial knowledge or putting in use financial knowledge. Between financial knowledge and financial performances of individuals and households exists correlation but also in some specific groups it is visible that level of financial knowledge doesn't always guarantee the best financial conduct in terms of best, optimal, financial decisions or choices of financial instruments.

Croatian Financial Services Supervisory Agency (HANFA) together with the Croatian National Bank (CNB) and in cooperation with the Ministry of Finance (MFIN) for the first time 2015. in the Republic of Croatia, the study "Measuring financial literacy". This measurement was conducted by Ipsos (Limited Liability Company) agency, according to the OECD methodology, and its findings are comparable to the results of the same research in other countries. (HANFA, 2016) The survey was conducted in the period from 21. October 2015. Up to 20. On November 2015. By the method of personal contact with subjects in the age group 18 to 79 years, on a representative sample of 1 049 respondents who are representative of age, sex, region, size of settlements and education. The main goals of the survey are the assessment of financial literacy and financial involvement of citizens of the Republic of Croatia, and in the survey, three basic categories were measured: financial knowledge, financial behaviour and attitude towards spending money.

The average assessment of the financial knowledge of Croatian citizens is 4.2 of the possible 7 points.

In this paper, we will be focused on one of the three components of financial literacy-financial behaviour.

The average assessment of Financial behaviour is 4.6 of a possible 9 points. The lowest level of financial behaviour is citizens (Ipsos, 2015, 10):

- Under 19 years of age (3.2) and those of 20-29 years (4.2)
- Primary Education (3.9)

- household income lower than 3750kn (4.0).

The assessment of Financial conduct was also observed through these questions and results (Ipsos, 2015, 11):

- 62% of citizens think carefully before purchasing anything
- 61% of bills paid on time
- 63% carefully take into account financial decisions
- 45% sets long-term financial objectives
- 63% personally manages household finances and has a home budget
- 16% strive to make financial decisions based on quality and independent information from several sources
- 20% in the last 12 months have found themselves unable to cover the costs they have dealt with by credit or loan.

According to these calculations, it is evident that financial conduct is poorly correlated with financial knowledge.

Has to be taken into consideration that Croatian citizens are constantly changing consumption habits as well as financial behaviour. (Buljan Barbača, 2017, 1028).

Financial behaviour seems to be more influenced by some other factors that are beyond the reach of financial knowledge, and therefore in this research goes in the direction of finding the relation between perception of importance and satisfaction of chosen aspects of life and financial behaviour of individuals.

1.2. Wellbeing and quality of life

According to the Canadian Index of Wellbeing (2014, p. 10), the perceived difference between GDP and CIW is not a gap but rather a chasm and indicates that GDP alone cannot be considered a measure of life well-being because of enough money for food, health and other basic needs do not fully contribute to the quality of life. We believe this opinion can be extended to all social communities. Financial satisfaction and financial behaviour have been found to have a positive and moderate relationship with quality of life, and financial behaviour and subjective perception of financial status are the most important predictors of quality of life. (Aripin & Puteh, 2017). Diener and Seligman (2004) state that regular measurement and monitoring of subjective well-being should become an indispensable prerequisite for political decision-making, as it has been shown that an individual's economic well-being depends not only on economic progress but also on his subjective judgments and emotions. Financial knowledge is a key determinant of wealth inequality in a stochastic life cycle model with endogenous financial knowledge accumulation, where financial knowledge enables individuals to better allocate lifetime resources in a world of uncertainty and imperfect insurance. (Lusardi, Michaud & Mitchell, 2017, 431).

If the quality of life depends on objective conditions and social circumstances (health, education, personal activity, political status, social ties, environmental conditions and insecurity) (Stiglitz, Sen, & Fitoussi, 2009), then economic status also shapes the quality of life in conventional measures of economic Money-based welfare and economic well-being can only to some extent increase the quality of life. Financial security, in our view, reflects on subjective life satisfaction, that is, economic, material insecurity reduces the sense of the quality of life. Reduced quality of life depends on the severity of the situation, the duration, the likelihood of stigma, fear of risk and financial consequences. The importance of financial literacy is reflected in the likelihood of financial fraud discussed by Sarriá, et al., (2019). The International Wellbeing Group (2013) defines the subjective dimension of quality of life with a sense of satisfaction, subjective perception of one's life. Quality of life defined in this way is measured by satisfaction on the dimensions of subjective perception: material well-being, health, achievement, interpersonal relationships, safety, community and security into the

future. (Cummins, et al., 2003, International Wellbeing Group, 2013).

From the work of many different authors is possible to recognize similar relations that connect main concepts that are to be explored in this paper. Figure 1 gives a proposal on how to observe a connection between financial behaviour and well-being.

Figure 1: Relations among Financial Literacy, Knowledge, Education, Behavior and Well-Being
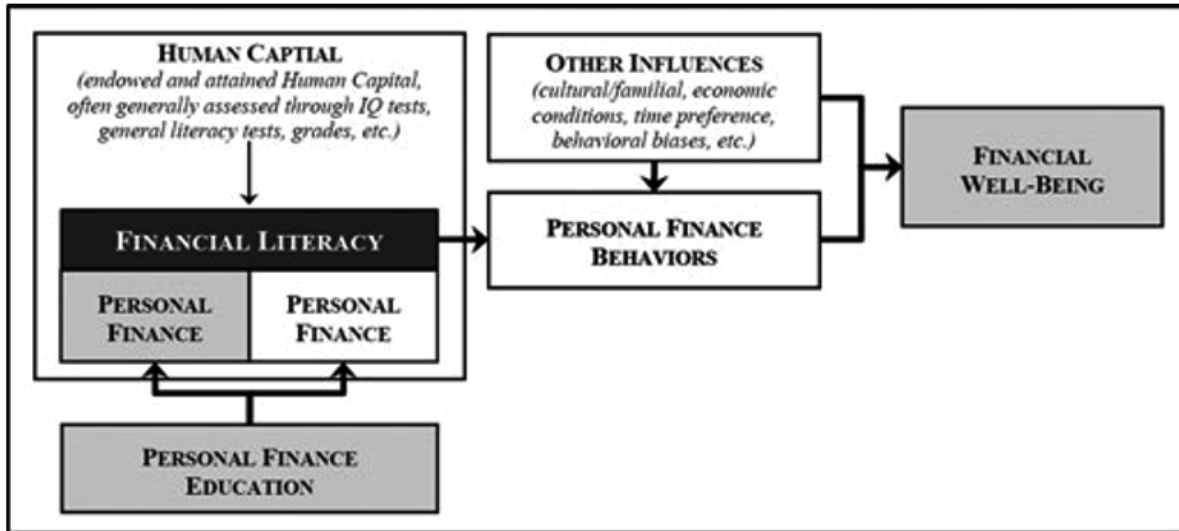
Source: adapted from Huston, S. J. (2010): Measuring Financial Literacy. *The Journal of Consumer Affairs, Vol. 44, No. 2, 2010 ISSN 0022-0078, 308.*

Financial wellness is a comprehensive, multidimensional concept incorporating financial satisfaction, the objective status of financial situation, financial attitudes, and behaviour that cannot be assessed through one measure (Joo, 2008, 21).

In conclusion, we believe that quality of life is a subjective experience based on age and includes objective circumstances, personality, life experience and a sense of financial security. Despite the positive association of financial literacy with good financial behaviour and well-being, consumers struggle to develop expertise in this area (Ward & Lynch, 2019, 1015). In assessing economic well-being, one should also take into account a subjective indicator that relies directly on financial resources, which is the control of financial resources. What we are to establish by research performed on two groups of students is how the perception of well-being correlate with financial behaviour and satisfaction of financial knowledge the respondents possess on financial products they consume.

2. Research methodology

True the work of many authors such as Hastings et al. (2013), Lusardi et al. (2010) or Hung et al. (2010) there is a great effort to establish how financial literacy is distinct from related concepts like numeracy and cognitive abilities. Results of majority researches performed show that cognitive factors cannot account for the entire variation in measured financial literacy levels, thereby leaving room for other dimensions of financial literacy. One of the most recent studies performed by Duxbury et al. (2020) shows that individuals with less financial knowledge are more up to making financial decisions based on emotions. But remains to be discovered what else is there to influence so strongly financial behaviour and could it be discovered concerning general attitudes and perceptions individuals have toward well-being. Also, Croatian researchers have found interest in this specific field of study. In research of Bahovec et al. (2017) focus is on efficiency in financial performances using

gender as a dummy variable, while Škreblin Kirbiš et al. (2017) explored also financial satisfaction concerning gender.

Prior researches have mainly relied on general factors to explain individual differences in financial behaviour - most commonly, gender, age, and education. What our study aims to do is to find a connection between financial behaviour and attitudes toward wellbeing. How important is the influence of a factor of wellbeing attitudes on the financial performances of individuals is the question to be answered. The PWI-A (International Wellbeing Group, 2013) questionnaire and part of the OECD questionnaire (OECD, 2016) on financial behaviour were used in the study, and similar instruments were used in the paper Aripin & Puteh, (2017). The questioner is enriched with an additional set of questions, regarding the importance of knowledge on the financial products respondents consume, which hasn´t been used in any prior researches.

Two different groups of students: students of Polytechnic of Šibenik and students of Department of Professional Studies, University of Split, made part of this research. The research was performed in a period of 10th February until 22nd February 2020. To investigate the previously displayed topic the questioner consisting out of 29 questions was created. The questioner was organized in 5 sections: general questions (age group, gender, place of studying), questions concerning best description on how satisfied are you with specific areas of life, questions about how important are some areas in their lives, questions that describe financial behaviour and questions about the importance of knowing the financial products respondents consume.

Sections 2. and 3. refers to satisfaction and importance to the stated areas of life. The PWI-A (Personal Wellbeing Index Adult) assesses adults' satisfaction with life as a whole, and satisfaction with life in different life domains. The first item assesses satisfaction with life as a whole, whereas seven additional items assess domain-specific satisfaction (i.e., satisfaction with standard of living, health, achievements, personal relationships, personal safety, community connectedness, and future security). Respondents rate their agreement with each item on an 11-point Likert-type response scale (0 = No satisfaction at all, 5 = Nor not satisfied nor satisfied, to 10 = c*ompletely satisfied).* Scoring of the PWI involves analyzing each of the 7 domain items as a separate variable or computing a total score that can be obtained by averaging, in our case, all 8 domain-specific items (International Wellbeing Group, 2013). The scores are then converted using the formula „(score/10) x 100" to produce a percentage of scale maximum units on a 0 to 100 distribution (cf. Cummins et al., 2003). Description Cummins et al. (2003) reported findings from a nationally representative sample of 2,000 Australians (ranging in age from 18 to 76 + years). This sample yielded a mean score of 75.48 (SD=19.67) for the single item on satisfaction with life as a whole. Means were reported for satisfaction with standard of living (M=75.78, *SD*=19.50), health *(M=*73.97, SD=21.38), achievements (M = 73.48, SD = 18.51), personal relationships (M = 78.44, SD=21.22), personal safety (M = 75.40, SD = 20.25), community connectedness (M = 68.98, SD = 20.84), and future security (M = 69.29, SD = 21.24). For the composite score of the PWI consisting of all seven domains, M= 73.48, SD =13.57 was found (Cummins et al., 2003). The PWI exhibited Cronbach alpha coefficients ranging between α = .70 and α = .85 across several studies (International Wellbeing Group, 2013).

In the second section of the questionnaire, students answered the questions about how important these different life domains are to them in their life. Respondents rate their agreement with each item on an 11-point Likert-type response scale (0 = Not important at all, 5 = Nor not important nor important, to 10 = completely important).

Sections 4. and 5. cover questions regarding financial behaviour. Based on standard questions regarding financial behaviour (OECD, 2015) section four of question has been made. From students has been asked to evaluate on the scale from 0 to 10 how important to them is a

specific aspect of financial behaviour. Choice of numeric value 0 represented response not important at all, numeric value 5 nor not important/nor important and numeric value 10 represents completely important.

The second part of financial behaviour test consists of questions that are asked to measure how satisfied they are on the level of knowledge on financial instruments that they consume. From students has been asked to evaluate on the scale from 0 to 10 how satisfied they are of the level of knowledge they possess. Choice of numeric value 0 represented response not satisfied at all, numeric value 5 nor not satisfied/nor satisfied and numeric value 10 represents completely satisfied.

2.1. Statistical data processing

A total of 221 students were examined. Most of the respondents, 98% of them are between 20 and 29 years old, while 2% are under 20. Respondents studying at the University Department of Professional Studies at the University of Split represent 72% of the total number, while 28% of respondents study at the Polytechnic of Šibenik. Two-thirds of the respondents are female.

Figure 2: Socio-demographic profile of students
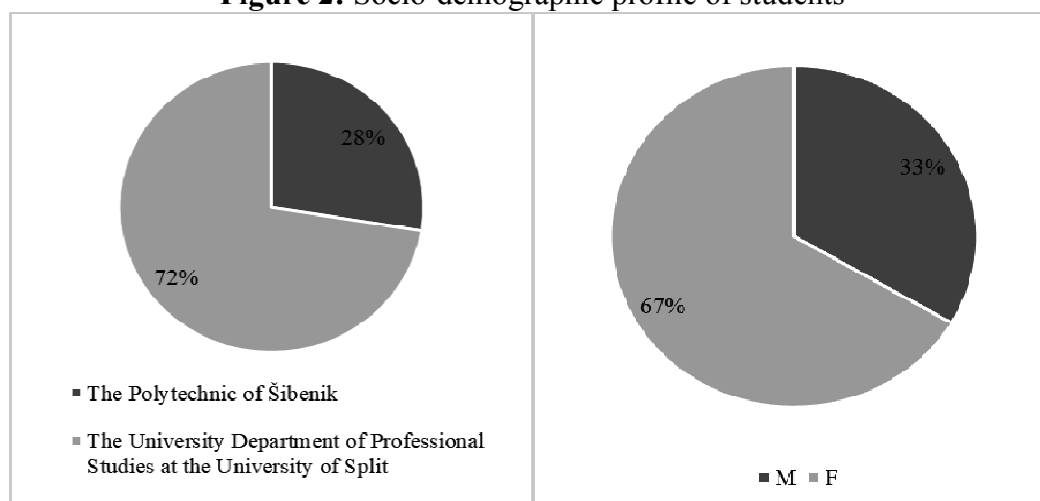
Source: authors` calculation

Respondents answered 4 sets of questions within which they rated each element with a rating from 0 (completely dissatisfied/unimportant) to 10 (completely satisfied/important). All responses, according to the ratio of grades 9 and 10, are assigned to ranks of satisfaction/importance (from very low to very high satisfaction/importance).

Table 1: Ranks of satisfaction/importance

Above 80%	70% to 80%	60% to 70%	50% to 60%	Under 50%
Very high	High	Medium	Low	Very low

Source: authors` calculation

In the first and second part of the questionnaire, students were asked to answer how satisfied they are and how important different areas of life, such as life in general, material condition, health, achievement in life, close relationships with family or friends, sense of security, belonging to the community and a sense of a secure future, are to them.

Table 2: Average grade and rank of satisfaction with specific areas of life

Elements	Average	% (9&10)
0. life in general	7,38	27,15%
1. material condition	7,56	38,46%
2. health	8,17	54,30%
3. achievement in life	7,46	35,75%
4. close relationships with family or friends	8,00	53,39%
5. sense of security	7,71	49,77%
6. belonging to the community	7,54	43,89%
7. sense of a secure future	6,24	17,65%

Source: authors` calculation

Students expressed a very low level of satisfaction with life in general. The average grade of satisfaction with life, in general, is 7.38. Students were dissatisfied or very dissatisfied with all specific areas of life.

Table 3: Average grade and rank of the importance of specific areas of life

Elements	Average	% (9&10)
1. material condition	6,34	14,93%
2. health	9,64	89,59%
3. achievement in life	9,03	71,49%
4. close relationships with family or friends	9,07	79,19%
5. sense of security	9,10	73,76%
6. belonging to the community	7,97	50,23%
7. sense of a secure future	9,40	82,35%

Source: authors` calculation

The students considered the elements of health and a sense of a secure future as very important. The students gave high importance to the achievement in life, close relationships with family or friends, and a sense of security, while they considered belonging to community and material status as unimportant and very unimportant.

In the third part of the questionnaire, students evaluated their financial behaviour (purchasing decision, responsible behaviour towards their finances, careful management of money, paying bills on time, regular planning their finances, saving/investments, being informed about financial products).

Table 4: Average grade and rank of the importance of financial behaviour

Elements	Average	% (9&10)
1. purchasing decision	7,14	25,34%
2. responsible behaviour towards their finances	8,61	62,44%
3. careful management of money	8,60	63,35%
4. paying bills on time	9,06	77,38%
5. regular planning their finances	8,22	51,13%
6. saving/investments	8,10	52,49%
7. being informed about financial products	8,42	57,92%

Source: authors` calculation

Students considered that it is very important to pay their bills on time, while they indicated a very low level of importance for the purchase decision, or how much they think about it before they decide to buy. They indicated a medium rank of importance for responsible behaviour towards their finances and careful management of money.

The fourth part of the questionnaire was related to satisfaction with their knowledge about the financial products they consume. In the survey questionnaire loans (purpose and non-purpose loans, credit cards, etc.), voluntary insurance products (supplementary and additional health insurance, property insurance, insurance of accidents, etc.), classic savings products (term savings, a vista deposits, etc.)., payment options (cash, debit cards, payment from account to account, etc.), compulsory insurance products (car insurance, 2nd pension pillar, compulsory health insurance, etc.), long-term savings products with and without insurance component (classic life insurance, life insurance with investment in funds, 3rd pension pillar, etc.), understanding the information they receive about financial products are included.

Table 5: Average grade and rank of satisfaction with knowledge about the financial products respondents consume

Financial products	Average	% (9&10)
1. loans	5,79	15,60%
2. voluntary insurance products	5,90	16,82%
3. classic savings products	5,22	12,84%
4. payment options	7,58	43,89%
5. compulsory insurance products	6,02	21,20%
6. long-term savings products	5,07	11,42%
7. understanding the information they receive about financial products	6,01	19,00%

Source: authors` calculation

Students are very dissatisfied with their knowledge of all financial products offered.

2.2. Analyses of obtained results

In this paper, the interrelation between the first and third group of questions, the second and fourth, the first and fourth, and between the second and third was examined. In table 5 the coefficients of correlation between the first (satisfaction with different areas of life) and the second group of questions (importance of financial behaviour) are given. According to results in table 5, there is a significant correlation between life satisfaction with almost all elements of the importance of financial behaviour. A significant correlation is also evident between the satisfaction of belonging to the community and the importance of the purchase decision.

Table 6: Correlations 1&3

	3.1.	3.2.	3.3.	3.4.	3.5.	3.6.	3.7.
1.1.	0,096	-0,016	-0,022	0,079	-0,022	0,001	-0,037
	(0,153)	(0,813)	(0,747)	(0,242)	(0,739)	(0,989)	(0,582)
1.2.	-0,045	-0,083	-0,089	-0,055	-0,085	-0,116	-0,113
	(0,508)	(0,215)	(0,187)	(0,414)	(0,208)	(0,084)	(0,092)
1.3.	0,253**	0,200**	0,186**	0,245**	0,231**	0,112	0,203**
	(0,000)	(0,003)	(0,006)	(0,000)	(0,001)	(0,095)	(0,002)
1.4.	-0,046	0,018	-0,042	0,008	-0,054	-0,112	0,007
	(0,495)	(0,787)	(0,537)	(0,911)	(0,424)	(0,095)	(0,919)
1.5.	0,040	0,084	0,082	0,131	-0,045	-0,003	0,082
	(0,549)	(0,215)	(0,226)	(0,052)	(0,508)	(0,962)	(0,224)
1.6.	0,091	0,099	0,095	0,107	0,043	0,031	0,099
	(0,175)	(0,140)	(0,158)	(0,113)	(0,519)	(0,648)	(0,141)
1.7.	0,144*	0,063	0,066	0,107	0,064	0,100	0,092
	(0,032)	(0,351)	(0,326)	(0,112)	(0,344)	(0,136)	(0,173)

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).
Source: authors` calculation

In table 6 the coefficients of correlation between the importance of different areas of life and satisfaction with one's knowledge of financial products are given. There is a significant correlation between the importance of material status and satisfaction with the knowledge of almost all financial products offered except voluntary insurance products and understanding the information about financial products. A significant correlation is also evident between the importance of health and satisfaction with one's knowledge of almost all financial products offered except savings. The importance of a sense of security is also significantly correlated with almost all elements of the fourth set of questions except satisfaction with knowledge of loans and classic savings products. The smallest values of coefficients of correlations in the second group were observed for the importance of close relationships with family or friends and the importance of one's happiness, while in the fourth group the smallest values of coefficients of correlations were found for satisfaction with knowledge about loans and classic savings products.

Table 7: Correlations 2&4

	4.1.	4.2.	4.3.	4.4.	4.5.	4.6.	4.7.
2.1.	0,244**	0,122	0,165*	0,162*	0,134*	0,155*	0,113
	(0,000)	(0,069)	(0,015)	(0,016)	(0,049)	(0,021)	(0,094)
2.2.	0,187**	0,181**	0,127	0,245**	0,142*	0,115	0,181**
	(0,006)	(0,007)	(0,060)	(0,000)	(0,037)	(0,088)	(0,007)
2.3.	0,106	0,199**	0,130	0,193**	0,126	0,171*	0,178**
	(0,118)	(0,003)	(0,054)	(0,004)	(0,063)	(0,011)	(0,008)
2.4.	0,062	0,130	0,052	0,217**	0,139*	0,110	0,168*
	(0,358)	(0,054)	(0,441)	(0,001)	(0,040)	(0,102)	(0,012)
2.5.	0,101	0,153*	0,162*	0,178**	0,186**	0,187**	0,133*
	(0,135)	(0,023)	(0,016)	(0,008)	(0,006)	(0,005)	(0,047)
2.6.	0,088	0,193**	0,069	0,175**	0,167*	0,167*	0,123
	(0,195)	(0,004)	(0,311)	(0,009)	(0,014)	(0,013)	(0,068)

	4.1.	4.2.	4.3.	4.4.	4.5.	4.6.	4.7.
2.7.	0,110	0,109	0,114	0,177**	0,085	0,113	0,143*
	(0,106)	(0,107)	(0,093)	(0,008)	(0,209)	(0,094)	(0,033)

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).
Source: authors` calculation

In table 7 the coefficients of correlations between the first and fourth groups of questions are given. There is a significant correlation between satisfaction with life achievements and all the variables of satisfaction with one's knowledge of financial products. Also, there is a significant correlation between satisfaction with a sense of security and satisfaction with your knowledge of almost all offered financial products except for long-term savings products. Satisfaction with material status and satisfaction with health is not correlated with satisfaction with one's knowledge of any financial product offered. Also, there is no correlation between satisfaction with different areas of life and satisfaction with their knowledge of savings, whether they be classic or long-term savings products.

Table 8: Correlations 1&4

	4.1.	4.2.	4.3.	4.4.	4.5.	4.6.	4.7.
1.1.	0,059	0,002	0,029	0,082	0,047	0,041	0,099
	(0,388)	(0,972)	(0,674)	(0,225)	(0,486)	(0,542)	(0,142)
1.2.	0,043	0,027	0,052	0,091	0,003	-0,001	0,031
	(0,527)	(0,690)	(0,442)	(0,177)	(0,967)	(0,987)	(0,647)
1.3.	0,194**	0,267**	0,180**	0,233**	0,219**	0,147*	0,216**
	(0,004)	(0,000)	(0,008)	(0,000)	(0,001)	(0,029)	(0,001)
1.4.	0,108	0,157*	0,019	0,100	0,126	0,074	0,139*
	(0,111)	(0,019)	(0,778)	(0,138)	(0,063)	(0,277)	(0,038)
1.5.	0,221**	0,233**	0,158*	0,200**	0,169*	0,120	0,191**
	(0,001)	(0,000)	(0,019)	(0,003)	(0,013)	(0,076)	(0,004)
1.6.	0,151*	0,183**	0,031	0,148*	0,157*	0,114	0,148*
	(0,026)	(0,006)	(0,646)	(0,027)	(0,020)	(0,092)	(0,027)
1.7.	0,109	0,182**	0,072	0,091	0,166*	0,137*	0,177**
	(0,108)	(0,007)	(0,288)	(0,175)	(0,014)	(0,042)	(0,008)

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).
Source: authors` calculation

In table 8 the coefficients of correlation between the second and the third groups of questions are given. There is a significant correlation between the importance of life achievement and all elements of the importance of financial behaviour. A significant correlation was also observed between the importance of health with almost all elements of the importance of financial behaviour except the importance of saving/investments. There is no correlation between the importance of material status and the importance of financial behaviour and between the importance of saving/investment and the importance of different areas of life.

Table 9: Correlations 2&3

	3.1.	3.2.	3.3.	3.4.	3.5.	3.6.	3.7.
2.1.	0,135*	0,090	0,066	0,057	0,046	0,050	0,030
	(0,045)	(0,184)	(0,325)	(0,398)	(0,500)	(0,463)	(0,654)
2.2.	0,151*	0,255**	0,214**	0,254**	0,232**	0,057	0,228**
	(0,025)	(0,000)	(0,001)	(0,000)	(0,001)	(0,402)	(0,001)
2.3.	0,182**	0,336**	0,285**	0,426**	0,268**	0,227**	0,254**
	(0,006)	(0,000)	(0,000)	(0,000)	(0,000)	(0,001)	(0,000)
2.4.	0,156*	0,175**	0,211**	0,208**	0,122	0,076	0,116
	(0,020)	(0,009)	(0,002)	(0,002)	(0,070)	(0,258)	(0,084)
2.5.	0,088	0,257**	0,227**	0,190**	0,260**	0,110	0,185**
	(0,191)	(0,000)	(0,001)	(0,004)	(0,000)	(0,103)	(0,006)
2.6.	0,194**	0,178**	0,205**	0,165*	0,180**	0,119	0,104
	(0,004)	(0,008)	(0,002)	(0,014)	(0,007)	(0,076)	(0,124)
2.7.	0,090	0,218**	0,199**	0,186**	0,115	0,093	0,180**
	(0,181)	(0,001)	(0,003)	(0,006)	(0,086)	(0,166)	(0,007)

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).
Source: authors` calculation

This research investigated the very specific correlations which were not in the focus of attention of other researches discussed and presented in theoretical frame. On the other hand, some research results partially go along with foundings of this research such as Škreblin Kirbiš et al. (2017) established difference in financial behaviour between genders which doesn't entirely correlate with financial knowledge level distribution among genders, but can be attributed, like in foundings of this paper, more to emotional approach in taking financial decisions. Duxbury et al. (2020) result displayed that individuals with less financial knowledge are more up to making financial decisions based on emotions, while Bahovec et al. (2017) focus on efficiency in financial performances shown that financial literacy and gender are both statistically significant in explaining individual financial performance.

3. Conclusions and recommendations

It is visible that students are dissatisfied or very dissatisfied with all specific areas of life. Satisfaction on the level of knowledge of financial products they consume is also very low. On the other hand, the importance of specific areas of life and specific modalities of financial behavior has been rated with higher ranking by respondents. Research result analysis undoubtedly shows that all components of financial behaviour and life achievement are very closely connected. Improvement in financial behaviour could lead to a higher level of satisfaction in life achievements. Furthermore, satisfaction in different aspects of life is connected with a level of knowledge of financial products that respondents consume. Low level of knowledge on long term savings such as voluntary funds and other means that can be used for this type of investments creates a lack of feeling of security in wellbeing in the future.

Interesting founding in terms of lack of correlation is that satisfaction with material status and satisfaction with health is not correlated with satisfaction with one's knowledge of any financial product offered. Individuals show no understanding of how material status health issues can be approached by consuming and understanding specific financial products. Also very interesting is the fact that there is no correlation between satisfaction with different areas

of life and satisfaction with their knowledge of savings, whether they be classic or long-term savings products. This attitude also shows a lack of understanding of the importance of saving products and long-term implications they have on the quality of life. The assessment on satisfaction with the level of knowledge on specific financial products creates good guidelines for future educational programs in terms of content.

The orientation to just one age group precludes strong statistical conclusions. However, converge of the survey responses give us significant insight into possible future approaches toward financial behaviour corrections and motivation for consumption. Research would probably give different results if it was undertaken on the sample belonging to other age group or if it was performed in other countries. The importance of this survey is also to be underlined by the absence of any prior research combining financial behaviour and knowledge on specific financial products with life satisfaction and general opinion on the importance of specific areas of life that individuals have.

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EFFICIENCY OF USING TECHNICAL INDICATORS AS A TOOL FOR PREDICTING FUTURE PRICE MOVEMENTS

ABSTRACT

Trading on the financial market today is one of the activities that has seen a high increase in popularity in both the professional and non-professional community, which can be attributed primarily to the rapid and significant progress in the financial and IT sectors. However, trading itself is a very complex activity, based on continuous market data analysis, decision making and risk control. Nowadays, there are many methods and methods available on the market, which are used by market participants themselves to predict price development. Technical and fundamental analysis can be considered the two most commonly used methods of financial market data analysis. Our paper deals with the mathematical indicator of technical analysis Bollinger bands. In the first chapter of our paper we developed a theoretical apparatus as a basis for further application of this indicator. The second chapter is focused on the description of the application itself and the research of acquired data. We introduced the time period of the application, the market and also the rules for evaluating the effectiveness of this indicator. In the third chapter we presented the obtained data and their interpretation. The last chapter of our paper are suggestions and recommendations. The aim of the whole paper was to assess the effectiveness of using the indicator Bollinger bands as a tool to predict future price movements.

Key words: *prediction, technical indicators, Bollinger Bands.*

1. Introduction

If we look at the area of trading in the financial market, we can identify a high increase in its popularity. The basic question in trading of financial instruments and their derivatives is how to effectively predict future price movements of financial assets. In this paper, we will try to approach the issue of predicting price movements of financial instruments by means of the Bollinger bands technical indicator. The aim of the whole paper is to assess the effectiveness of using the Bollinger band indicator as a tool for predicting future price movements. In the first chapter of our work we will build a theoretical apparatus as a basis for further use of this indicator. The second chapter is focused on the description of the application itself and research of obtained data. We introduced the time period of the application, the market as well as the rules for assessing the effectiveness of this indicator. In the third chapter we presented the obtained data and their interpretation. The last chapter of our work is focused on suggestions and recommendations.

2. Theoretical basis

Bollinger bands are one of the indicators of technical analysis that try to predict future price movements based on the study of historical prices and trading volume. The author of this indicator is John Bollinger, who developed this method in the 1980s. This indicator allows you to graphically visualize the volatility and relative price level over a period. The indicator itself is graphically visualized through three curves. The middle curve represents the moving average of the closing prices of *n* candles. The length of the middle curve calculation period can be varied at the discretion and type of market. The basic setting is the length of 20. In general, this should be a section of the price chart for which the market shifts from peak to peak. The upper curve represents the moving average plus *r* times the standard deviation. The lower curve represents the moving average minus *r* times the standard deviation. The constants *n* and *r* may be varied at their discretion. Some markets exhibit a different behavior and price structure than others, and it is logical for them to use specific more effective settings for these constants. The most commonly used values are *r = 2* (twice the moving average) and *n = 20* (the last 20 candles). Bollinger bands can be interpreted in different ways depending on their behavior. With this indicator, we can observe different phases depending on whether the market is trending or going sideways. Bollinger bands represent market volatility, the greater the distance between the bands, the more volatile the market. Thanks to this phenomenon it is possible to identify the volatile period and also the period when there is less volatility on the instrument. Recall that in 95% of cases the price is within the Bollinger bands. Depending on the market, the volatile phase is followed by a less volatile phase or a lateral movement [1,4,6,12].

Figure 1: Graphical visualization of Bollinger Bands indicator with basic setting

Source: authors

The standard deviation is a statistical term that provides a good representation of volatility. The use of the standard deviation ensures that the bands will respond quickly to price movements and reflect periods of high and low volatility. The creation and use of Bollinger bands is based on statistically reported measurements that 95 percent of the values are within twice the standard deviation, either downwards or upwards. The remaining 5 percent are outside these bands. If the given borders are exceeded, traders are more likely to have a price correction in the opposite direction, which will return to predetermined bands. Since the standard deviation is an expression of market volatility, both the upper and lower limits of the Bollinger bands tend to adapt to the current market volatility and thus limit normal price movements in given conditions [9,10,11]. However, crossing the border alone does not

necessarily mean a signal to buy or sell, but only increases the likelihood or points out a possible reversal. The reversal moments are then usually determined by new High / Low prices outside the Bollinger bands, followed by High / Low prices in their range. After such a reversal, the price tends to approach the middle value. Also, the price can often break this middle value and continue to the other limit of the Bollinger bands. During less volatile trading, the boundaries are close to each other and during a very volatile market they move away from each other. If the borders are very close to each other, it is necessary to prepare for the subsequent sharp market fluctuations, either upwards or downwards [1,2,3,12].

3. More detailed specifications for measuring the effectiveness of the Bollinger Band indicator

The aim of the whole paper is to evaluate the effectiveness of using the Bollinger band indicator as a tool for predicting future price movements. In our paper, we will test the effectiveness of various period settings of this indicator in predicting future price movements of financial instruments. For the purposes of our research, we chose CFDs with underlying asset futures on the S & P500 index. The reason is the availability of data directly from the market and the possibility of applying the indicator chosen by us. Another important reason is that we can consider the S & P500 as a diversified instrument and condition indicator of the entire US stock market because it contains the 500 largest stock companies listed on the stock market. The research will be carried out at historical market prices and other variables, namely at the time interval from 1.1.2019 to 31.12.2019. The reason for choosing this time interval is that it will ensure sufficient frequency of analyzed situations. Another reason is that research can cover seasonality and different market cycles throughout the year. The application of the indicator itself will be realized on the candle price chart of the instrument chosen by us with the time period of rendering one candle 1 day (D1 timeframe). The reason for using this timeframe is that we consider it ideal because of the fact that our research will not be burdened with intraday market fluctuations and yet will largely reflect current market situations [5,7,8]. In our research we will compare the results of the application of this indicator with the following combinations of input constants:

- $n = 20, r = 2$ vs. $n = 20, r = 3$
- $n = 20, r = 2$ vs. $n = 30, r = 2$

By applying the indicator with the selected input constants we want to find out how the change of individual variables will have an impact on the efficiency of this indicator.

4. Results and their interpretation

Table 1: Measured data with n=20, r=2 setting

A	B	C	D	E	F	G	H	I	J	K
1	2019.01.31.	2712,6	No	4	24,6	2737,2	57,4	2679,8	Down	3
2	2019.02.13.	2760,8	Yes	0	0	2760,8	33,7	2727,1	Down	2
3	2019.03.08.	2721,7	Yes	0	0	2721,7	143,9	2865,6	Up	11
4	2019.03.13.	2821,9	No	7	43,7	2865,6	76,5	2789,1	Down	3
5	2019.04.03.	2889,3	No	20	71	2960,3	232,5	2727,8	Down	23
6	2019.05.07.	2860,7	No	19	132,9	2727,8	301	3028,8	Up	40
7	2019.06.10.	2904	No	2	7	2911	45,3	2865,7	Down	3
8	2019.06.20.	2964,3	No	1	5,1	2969,4	55,4	2914	Down	4
9	2019.07.03.	3000,6	No	1	3	3003,6	40,3	2963,3	Down	3
10	2019.07.26.	3028,8	Yes	0	0	3028,8	254,7	2774,1	Down	7
11	2019.07.31.	2957,7	No	4	182,5	2775,2	248	3023,2	Up	28
12	2019.09.05.	2986,8	No	6	37	3023,8	169,8	2854	Down	14

A	B	C	D	E	F	G	H	I	J	K
13	2019.10.01.	2936,5	No	2	81,9	2854,6	302,5	3157,1	Up	42
14	2019.11.04.	3082,7	No	20	74,4	3157,1	88,6	3068,5	Down	2
15	2019.12.12.	3177,5	No	13	76,5	3254	43,9	3210,1	Down	2

Source: authors

Table 2: Measured data with n=20, r=3 setting

A	B	C	D	E	F	G	H	I	J	K
1	2019.05.09.	2835,4	No	3	34,8	2800,6	93,6	2894	Up	3
2	2019.08.02.	2912,3	No	2	136,4	2775,9	248,2	3024	Up	28
3	2019.10.02.	2873,7	No	1	20	2853,7	303,4	3157	Up	42

Source: authors

Table 3: Measured data with n=30, r=2 setting

A	B	C	D	E	F	G	H	I	J	K
1	2019.03.15.	2835,6	No	5	30,5	2866,1	77,1	2789	Down	3
2	2019.04.01.	2873	No	21	87,9	2960,9	159,2	2802	Down	10
3	2019.05.09.	2836,2	No	3	35,1	2801,1	92	2893	Up	3
4	2019.05.23.	2805,1	No	7	78	2727,1	301,6	3029	Up	40
5	2019.06.20.	2963,8	No	1	5,2	2969	54,7	2914	Down	3
6	2019.08.02.	2913,2	No	2	137	2775,8	247,8	3024	Up	28
7	2019.09.11.	3003,9	No	2	19,4	3023,3	169,4	2854	Down	14
8	2019.10.03.	2854,6	Yes	0	0	2854,6	303,1	3158	Up	43
9	2019.11.04.	3083,4	No	19	74,3	3157,7	89,1	3069	Down	2
10	2019.12.12.	3176,1	No	10	77,9	3254	42,5	3212	Down	2

Source: authors

Table 4: Legend to Tables 1, 2 and 3 above

A= Number	*G= Price of reaction (points)*
B= Date of identification	*H= Size of reaction (points)*
C= Price of identification (points)	*I= Price of reaction end (points)*
D= Reaction on the first candle?	*J= Direction of movement*
E= Number of candles to reaction (D1)	*K= Number of candles during reaction (D1)*
F= Size of the movement to reaction (points)	

Source: authors

Based on the measured data we can draw the following conclusions. Based on the Bollinger Bands indicator with traditional settings *(n = 20, r = 2)*, we have identified 15 situations where the market has crossed the limits of + -2 standard deviations. 27% of the identified situations predicted the upturn of the market and 73% predicted the downturn. However, the indicator identified only the moment when the price is outside the selected band and not the inflection point of the turnover of price development. Therefore, we have identified delays in market turnover alone. The delay was identified in 3 cases, which accounts for 20% of the identified situations. The average delay of the remaining 12 ties was 6.6 trading days. The actual delay in the case of the reverse signal to decline was 31.1 trading day and in case of the prediction of turnover towards 31.1 trading day. The average delay of the inflection point identification for the Up signal was 30.3 trading days and for the Down signal it was 6 trading days. The average price response from the identified inflection points upwards was 249 points and downwards 99.8 points. The most interesting finding was the ratio between the magnitude of the price change of the indicator delay and the magnitude of the predicted price change itself. The average ratio for the upward price change prediction was 2.44 (1

absolutely effective situation without delay), and for the downward forecast the average ratio was 4.45 (2 absolutely effective situations). Based on the measured data, we can clearly say that the uptrend was identified on the market during 2019. This suggests the frequency of identified situations. Since most of the situations we identified predicted a turnover of prices to the mountain and most of the time during the test period the price was around the top line representing the rolling average of +2 standard deviations, we can say that the market tended to grow. This is also confirmed by the average size of reactions to the inflection point. In the case of the prediction of a change in the upward price development, the average price response was 249 points.

In the case of application of the Bollinger Bands indicator with setting of the hysteria length for moving average calculation and applying 3 standard deviations (n = 20, r = 3) we identified only 3 situations when the price escaped from this band. All 3 situations predicted a turnaround in price developments in the mountains. The average length of the inflection point identification delay is 2 business days. The average response to the inflection point was 215 points and the average delay amount was 63.7 points. The ratio between the magnitude of the delay and the mean magnitude of the response to the inflection point was 3.37. The measured data confirmed our expectation of an extremely low number of identified situations as this corresponds to the statistical assumption of 3 standard deviations from the mean. It is also understandable that all the situations identified predicted a downward price turnover due to the fact that in the long-term rising trends the unexpected situation is a sharp downward correction.

In the case of setting when we increased the time interval for moving average calculation to 30 (n = 30, r = 2) we identified 10 situations during 2019. 40% of these situations predicted market turnover upwards and 60% downwards. The average delay of identification of the inflection point was 7 trading days. In the case of the prediction of the upward trend of the upward trend it was only 3 trading days and in the case of the prediction of the market turnover down to 9.67 trading day. The average delay of identification of the inflection point predicting the uptrend was 62.6 points and the downtrend was 49.2 points. The average magnitude of the reaction to the situation that predicted the upward trend change was 236 points and downward only 98.7 points. The ratio between the magnitude of the delay and the mean magnitude of the response to the inflection point was in case of uptrend prediction 3.77 and in case of downtrend prediction 2.01.

The most effective way to use the Bollinger Bands indicator can be considered a classic setting for the following reasons. This indicator has identified the largest number of situations. Also with this setting, we identified 73% of the downward trend predictions that offered a ratio between the inflection point identification delay size and the total inflection point response rate 4.45 and the day of the fully effective, no-delay situation. Also interesting is the fact that in this case the ratio of counter-trend situations was more effective than the ratio of situations that predicted the continuation of the long-term trend. This is explained by the fact that in the long-term trend the price is kept in the upper band between the moving average and the +2 standard deviation and the sharp downward correction is unexpected and the indicator reacts slowly to it.

5. Discussion

In the case of research into the use of this indicator, there are still more unanswered questions than those answered. Also, efficiency testing itself does not have a standardized metric. Efficiency itself is largely judged on the basis of the ability to convert information obtained from the indicator into financial profit. Therefore, each entity considers a different kind of output data to be effective for him. Further research in this area could aim at comparing the

results of this indicator in different market environments such as trend and trendless situations or periods of extremely high or low volatility. Finally, we can identify the limits of our research. We see the limits and limitations of the research mainly in the specific settings of the indicator used. The results and their interpretation are based on the measured values of the application of the Bollinger bands indicator with precisely defined settings. We can assume that the results of applying the indicator with different input settings could bring different results of the application. The data obtained could also affect a different market environment if the application interval were different. It would be very interesting to examine how different the results would be with different indicator settings and also when applied in a market with different market conditions. We would see another possible direction of research in this area by comparing the performance of the indicator when applying to a wider range of financial instruments, with different settings of input parameters and especially when applying in markets that show different market environments (up trend, down trend, range). However, based on the very structure of the calculation and use of this indicator, we believe that it could show quality results in predicting future price movements of financial instruments even in such cases.

6. Conclusion

The aim of the whole paper was to assess the effectiveness of using the Bollinger band indicator as a tool for predicting future price movements. In the first chapter of our work we built a theoretical apparatus as a basis for further use of this indicator. The second chapter was focused on the description of the application itself and research of obtained data. We introduced the time period of the application, the market as well as the rules for assessing the effectiveness of this indicator. In the third chapter we presented the obtained data and their interpretation. The last chapter of our work is focused on suggestions and recommendations. We believe this contribution will be valuable in this area of research.

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NON-PROFIT ORGANIZATIONS AS A STAKEHOLDER IN TOURISM DEVELOPMENT

ABSTRACT

Because of their potential and capabilities, non-profit organisations are increasingly referred to in the literature as a relevant stakeholder in tourism development that is able to ensure lasting benefits for local communities and sustainable tourism initiatives.
The purpose of this paper is to study the extent to which associations are recognised as a stakeholder in the tourism development of Croatia and the areas of tourism development in which they have been assigned active roles. To that end, the paper analyses strategic tourism-development documents at the national level, and the strategic tourism-development documents of the most developed continental counties in Croatia with regard to tourism traffic in the past five years.
Research results indicate that some documents recognise and identify associations as a stakeholder in tourism development but mostly fail to assign any active roles to associations in the execution of individual activities. In other words, despite the potential that associations possess, they are not involved to any sufficient extent in devising tourism development strategies in general or development strategies for specific forms of tourism in particular.

Key words: *civil society associations, professional associations, tourism, stakeholders in tourism.*

1. Introduction

To ensure that tourism development is systematic and managed sustainably to provide long-term benefits, special importance is attached to creating documents that define the lines of tourism development (strategic plans, action plans and national plans). These documents objectively identify and analyse the current state of tourism development in a given area, based on which concrete objectives are set, together with the measures needed to achieve them. Strategic documents are the platform of action for all stakeholders in the tourism system. Only the coordinated action and cooperation of all stakeholders can ensure that strategic objectives are met and that, in turn, tourism development is managed sustainably. One of the stakeholders in tourism development is the civil sector, that is associations that can be professional or non-professional (civic associations). **Professional associations** are made up of professionals in particular areas of activities, gathered together to provide support to shared goals and protect common interests through joint public declarations. Unlike professional associations, **civic associations** are associations where citizens voluntarily come together to undertake collective action to help resolve some present social issue.

In the existing scientific and professional literature, very few authors have focused on the importance of associations in tourism development and there are practically no papers specifying the areas of tourism in which associations should be involved.

Accordingly, the purpose of this paper is to determine whether, and to what extent, associations – civil society associations, in particular – are recognised as a stakeholder in the tourism development of Croatia at both the national level and the level of the most developed continental counties, and whether they have been assigned active roles in various activities.

2. Literature Review

Successful tourism development based on sustainability implies the involvement of all stakeholders in the tourism management process (Byrd, 2007, Tomljanović, Boranić Živoder, Marušić, 2013, Towner, 2018). Involving diverse stakeholder groups in tourism development processes can help in addressing different cultural, social, environmental, economic and political issues impacting sustainable tourism development. One such stakeholder group in tourism comprises civil associations whose actions, activities and projects affect tourism in the area where they are operating.

Research carried out up to the 1990s focused mainly on residents, tour operators, tourists and the state (Pinel, 1968; Neto, 1990; Gunn, 1987; Ahmed, Krohn, 1990) as key stakeholders in tourism. In addition to these four groups, Gunn (1987) identified hoteliers as vital stakeholders in tourism development while Ahmed and Krohn (1990) also added tourism workers and the local community.

By the late 1990s, studies were increasingly concerned with non-profit organisations (NPOs), as one of the stakeholders in successful tourism development (Hassan, 2000; Swarbrooke, 2001; Araujo, Bramwell, 1999, Jamal, Stronza, 2009, Ellis, Sheridan, 2014.)

According to Farmaki (2015) and Liburd (2004), the spreading of NPO activities represents a turning point in tourism because of the ability of NPOs to bridge the gap between different social strata by engaging diverse approaches and sustainable tourism practices. In view of that, NPOs are assumed to have the creative potential and flexibility for launching sustainable tourism development initiatives. Birto and Buckley (2016) also recognised the importance and role of NPOs in tourism, stating that NPOs are growing more and more relevant as alternative and legitimate sources of tourism development, with tourism-focused NPOs becoming increasingly involved in sustainable activities, in particular in creating value for tourists and residents. Iorgulescu and Ravar (2015) underline the importance of continuous NPO involvement in tourism-related projects as a way of ensuring lasting benefits for the local community and fostering sustainable tourism initiatives, while Dadić and Maškarin Ribarić (2017) identified and grouped the direct and indirect effects of NPOs on tourism development. In this context, the direct effects of associations on tourism refer to all association activities that have a direct impact on expanding the offering in a destination, increasing tourist traffic in a destination, increasing tourist spending and, ultimately, generating more tourism-related revenue. These activities generally pertain to the selling of products and the provision of services, mostly carried out by associations in the fields of culture, sport and sustainable development. On the other hand, indirect effects refer to association activities focused on creating the conditions and infrastructure needed to make the stay of guests in a destination more enjoyable. Primarily carried out by associations in the field of environmental and nature protection, sport and sustainable development, such activities include cleaning up the land, sea and seabed, sign-posting and maintaining bike routes and hiking trails, etc. Although these activities help to boost the image of a tourist destination, the efforts of associations frequently go unrecognised, with local tourist boards often taking all the credit, leaving associations standing in the shadows.

In a destination, NPOs can exert influence on local authorities with a view to creating tourism policies aimed at the preservation and development of environmental, historical and social

features (Günes, 2010). In this respect the UN's Global Partnership for Sustainable Tourism (2012) points out that because of their expertise and despite their limited financial and other resources, NPOs can make a considerable contribution to promoting sustainable practices in tourism by educating tourists about behavioural patterns in a destination that are compatible with nature and supported by local communities, by drawing funds to deliver projects, by overseeing tourism development and so on.

Given the rising importance of NPOs in tourism development, this paper aims to establish whether NPOs are recognised as stakeholders in tourism development in Croatia. To this end, the following hypothesis was formulated: *In the existing tourism development strategies (strategic documents), NPOs are recognised as a partner and important stakeholder in the tourism development of tourist destinations.*

3. Research methodology

Secondary research was conducted to test the hypothesis. Analysed were strategic tourism development documents at the national level, and the strategic tourism development documents of two continental counties, the most developed in terms of tourism with regard to tourist arrivals and overnights in the past five years.

To establish the extent to which the role of associations in tourism development is recognised, the most important strategic documents of tourism development at the national and county level are analysed. To this end, the analysis of strategic documents is carried out in several steps:
  a) the documents in broad lines (title, objective and structure of the documents),
  b) the frequency of use of the terms *udruga* (association) and *civilno društvo (sektor)* (civil society/sector) in the documents,
  c) the defined role of professional and non-professional (civic) associations,
  d) the existence of examples of good practices of associations (professional and civic).

Based on the above steps, a conclusion of the analysis of each document will be presented, together with recommendations for defining the potential roles of associations.

4. Results and discussion

Strategic tourism-development documents at the national level

The fundamental document for tourism development at the national level is the **Tourism Development Strategy of the Republic of Croatia by 2020** (hereinafter: the Strategy) adopted on 26 April 2013 by the Croatian Parliament at the proposal of the Committee on Tourism. Consisting of seven parts, the Strategy analyses the current state of supply and demand, presents global development trends and opportunities for Croatia, and describes the development principles, vision and strategic objectives of tourism development by 2020.
The term *udruga* (association) is mentioned 12 times in the Strategy and the term *civilni sektor* "civil sector" only twice.
Throughout the Strategy, associations are mentioned exclusively in the context of professional associations, the roles of which are defined in the following fields of:
  ▪ human resources and quality management *(the role of the Association of Employers in Croatian Hospitality),*
  ▪ health tourism *(the role of the National Health Tourism Association),*
  ▪ business tourism (*the role of professional associations in market research, education, lobbying and product development),*

- cycling tourism *(the role of the National Cycling Tourism Association),*
- adventure and sports tourism *(the role of a national adventure and sports tourism association).*

Civic associations (non-professional associations) are mentioned only twice, in the following contexts:

- the possibility of their participation in the work of the inter-ministerial professional council (alongside the State Spatial Planning Council, professional associations within the Croatian Chamber of Economy and the Croatian Chamber of Trades and Crafts, as well as civic associations and other non-profit organisations), whose primary tasks involve discussing and coordinating annual action plans to implement the Strategy and monitoring the execution by individual actors of agreed upon activities,
- collaboration between public authorities and the private sector, civil sector and institutions in the sphere of environmental protection, culture, traffic, health care, security, etc, in tourism product creation.

The objectives and roles of civic associations (non-professional associations) are not explicitly stated in the Strategy. Although recognised as stakeholders in tourism because of their potential, civic associations are poorly incorporated into the Strategy.

Civic associations could make a vital contribution in the operational part of the Strategy, which deals with the development objectives of each individual tourism product. Civic associations should be involved in developing the **"sun and sea"** product and in helping to maintain destination infrastructure, in particular, beaches, promenades, and biking and walking trails. In the context of **cultural tourism**, civic associations could become engaged in activities focused on encouraging the development of cultural theme routes (for example, historical roads and religious pilgrimage trails), setting up sophisticated visitor centres alongside key attractions, drawing up an Action Plan for Cultural Tourism Development, and identifying opportunities for developing novel cultural events that have the potential of becoming internationally distinctive. With regard to **golf tourism**, civic associations can also be seen as a stakeholder in creating an Action Plan for Golf Tourism Development and could contribute to developing and maintaining golf courses. To help boost the development of **cycling tourism**, civic associations should become involved in maintaining existing biking trails and setting up new ones, as well as in designing competitions and events. Civic associations could contribute to the development of **eno-tourism and gastro-tourism** by helping to bring together local producers of agricultural products and the catering industry and by fostering the development of wine and culinary theme roads and routes (for example, wine roads, olive oil roads, cheese roads, etc.). In **rural tourism and mountain tourism** development, civic associations could contribute to activities in creating themed offerings by grouping private family farms according to various themes (for example, family homesteads, farms with organic food production, horse-riding farms, farms for cycling tourists, etc.) and to activities focused on the development of ethno-villages, in particular through the revitalisation of mostly or completely abandoned rural areas, taking care to bring life rather than museumification to a location. Civic associations could facilitate the development of **adventure and sports tourism** by engaging in activities to design and develop competitions and other events, develop infrastructure such as waymarked routes and trails, design courses, etc. They could also actively contribute to the development of **ecotourism** (through activities aimed at establishing sophisticated visitor centres with information and educational functions for key attractions, and zoning ecotourism areas in Croatia to set up a network of sites with various levels of protection, services, facilities and experiences) as well as **social tourism** (activities in launching campaigns to raise awareness in service providers in tourism about the importance and relevance of social tourism, and activities in developing social tourism databases).

It follows from the above that civic associations could be actively engaged in the development of almost any tourism product. The Strategy, however, fails to assign them any active role in tourism development. Future tourism development planning needs to take civic associations into consideration as an important stakeholder in tourism development and actively involve them in various activities, wherever possible.

Several specific action plans to facilitate the achievement of the Strategy's objectives stem from the Strategy as a fundamental document. These documents are:
- Action Plan for Nautical Tourism Development (Institute for Tourism, 2015)
- Action Plan for Health Tourism Development (Institute for Tourism, 2014)
- Action Plan for Cultural Tourism Development (Institute for Tourism, 2015)
- Action Plan for Cycling Tourism Development (Institute for Tourism, 2015)
- Action Plan for Social Tourism Development – Tourism for Everyone (Institute for Tourism, 2014)
- Action Plan for Green Tourism Development (Institute for Tourism, 2016)
- Action Plan for Tourism Development in Rural Areas in Croatia (Institute for Tourism, 2015)
- Action Plan for Congress Tourism Development (Institute for Tourism, 2016).

In addition to an introduction, description of the methodological framework used to draw up the plan, and identification of stakeholders in nautical tourism in Croatia, the **Action Plan for Nautical Tourism Development** consists of four main parts, each dealing with a specific nautical tourism product. The four nautical tourism products defined in the Action Plan are *yachting tourism, domestic cruise tourism, international cruise tourism* and *international river cruise tourism*.

The term *udruga* (association) is mentioned 22 times in the document and refers mostly to professional associations while the term *civilno društvo* (civil society) is not mentioned at all.

The roles of individual associations are described in the part listing the stakeholders in Croatian nautical tourism with regard to the type of nautical tourism product. Associations, as stakeholders, are recognised as being part of the following groups:
- Stakeholders common to all forms of nautical tourism in Croatia *(non-government associations for environmental protection),*
- Stakeholders specific to yachting tourism, including charter *(Nautical Tourism Association, Association of Croatian Marinas, Nautical Charter Association, Small Shipbuilder Association, Nautical Sector Association, Adriatic Skipper Association)*
- Stakeholders specific to domestic marine cruise tourism (*Association of Touristic Shipowners, Association of Small Shipowners of the Northern Adriatic, Croatian Association of Private Shipowners, Small Shipbuilder Association, Nautical Sector Association*).

The role of specific professional associations is defined and assigned in the section of the Action Plan dealing with development programmes for individual nautical tourism products. These programmes are:
- Legislation and terminology *(professional associations at the Croatian Chamber of Economy (CCE),*
- Capacity building and quality improvement (*professional associations at the CCE),*
- Marketing *(professional associations at the CCE, National River Cruise Association),*
- Environmental and nature protection *(professional/sectorial associations, National River Cruise Association),*

- Educating stakeholders and promoting collaboration *(professional associations at the CCE; National River Cruise Association).*

Even though the importance of associations is recognised in nautical tourism development, roles have been assigned solely to professional associations but not to any civic associations. Also, no good practice examples are stated referring to either professional or civic associations. To foster nautical tourism development, civic associations should foremost become involved in activities relating to "Environmental and nature protection", in particular elaborating effective environmental and nature protection systems, introducing green technologies and innovations in developing the nautical tourism offering, improving the legislative effectiveness of waste management, preventing marine waste and raising the awareness and responsible behaviour of boaters.

The **Action Plan for Health Tourism Development** aims to harmonise and systemise the action of major stakeholders of health tourism development in the public, private and civil sectors. The document analyses the features of health tourism in Croatia; presents health tourism trends, success factors in the international market, and a SWOT analysis; and describes the visions, objectives, programmes, activities and measures in developing wellness tourism, spa tourism and medical tourism.

In this Action Plan, the term *udruge* (associations) is mentioned 23 times. The term *civilno društvo* (civil society) is mentioned twice – as a stakeholder in health tourism development alongside the private and public sectors, and in the context of the EU's initiative "European Platform Against Poverty" which needs the programmes of civil society associations, among others, to lift 20 million people out of poverty.

Similar to the previously analysed Action Plan, the Action Plan for Health Tourism Development defines only the roles of professional associations, in the following areas:

- Developing an institutional framework *(Association of Employers in Croatian Hospitality, National Association of Family and Small Hotels),*
- Enhancing distinctiveness in the market *(Association of Hoteliers, professional associations of health/spa tourism service providers),*
- Improving the existing offering *(Association of Hoteliers, Health Tourism Association at the CCE, Association of Private Polyclinics, Hospitals, Spas and Health Care Institutes at the CCE),*
- Providing lifelong education *(Association of Hoteliers, professional associations of health/spa tourism service providers).*

While the role of professional associations is recognised and important in all areas of health tourism development, civic associations are not recognised as a stakeholder in the development of health tourism. The Action Plan should include in the category "Other stakeholders" the civic associations registered in the area of health care, given the fact that their capabilities and resources would enable them to play an active role in health tourism development, in particular with regard to **lifelong learning** and **improvements to the offering**.

The aim of the **Action Plan for Cultural Tourism Development** is to establish a common platform for development and to coordinate the action of major stakeholders relevant for the development of cultural tourism in Croatia. The document consists of six main chapters focused on an analysis of demand and trends in cultural tourism development, an analysis of the current state of Croatia's cultural tourism offering, an analysis of the strengths and weaknesses of the cultural tourism offering, cultural tourism development guidelines and objectives by 2020, key development programmes (cultural tourism infrastructure, cultural tourism product

development, cultural tourism marketing, partnerships for cultural tourism development, education for cultural tourism) and an implementation plan.

Not once are the terms *udruga* (association) and *civilno drustvo* (civil society) mentioned in the document, suggesting that associations are not recognised as a stakeholder in cultural tourism development. Accordingly, the document does not identify or assign any role to either professional associations or civic associations.

Many opportunities exist, however, for involving associations in cultural tourism development. One of the Action Plan's main shortcomings is its failure to include associations in a survey on the attitudes of stakeholders, on which is based chapter 4, "Analysis of the state of the cultural tourism offering in Croatia". Furthermore, the Action Plan's penultimate chapter, concerned with key cultural tourism development programmes and related steps and action to be taken, also fails to assign an active role to associations. Considering the numerous projects and activities in which associations are engaged in the field of culture, it is beyond doubt that associations should be involved in almost every programme area of the Action Plan:

- **Developing cultural tourism infrastructure**; *Step: Improving the quality of the experience and expanding the range of services for visitors.* In this area, associations have the capacities and resources needed to carry out activities, together with other stakeholders in tourism, relating to the development of visitor centres consisting of an exhibition area (where the importance of a site is interpreted) and a sales area (where tickets, souvenirs, etc. are sold).
- **Developing cultural tourism products;** *Steps: Developing themed cultural itineraries, Building the distinctiveness of and gaining competitive advantages for tourism regions based on a cultural tourism offering, Reviving cultural tourism attractions through festivals and events.* Operating at a local level, some associations help to design a distinctive tourism product, organise events, create cultural itineraries (for example, the cultural itinerary "In St. Martin's Footsteps") and tours of sacred buildings, thus reinforcing the cultural tourism product.
- **Building partnerships for cultural tourism development;** *Step: Building formal partnerships for cultural tourism at the national level.*
- **Ensuring education for cultural tourism;** *Step: Developing modular curricula for the development and interpretation of cultural heritage.*

In Croatia, the largest numbers of associations can be found in the field of sports and in the field of culture and the arts. Cultural associations account for 12.27% of the total number of associations in Croatia. By failing to involve associations in cultural tourism development, the Action Plan underrates their capacity for, and potential contribution to, developing cultural tourism, which is foremost seen in the development of cultural tourism infrastructure and in the preservation of culture and heritage.

The Action Plan for Cycling Tourism Development aims to create a framework for managing major cycling tourism routes and providing them with the services and facilities required to meet the basic criteria specified in valid Croatian legislature and in European cycling tourism standards (EuroVelo). This also involves constructing separate bicycle trails and lanes on priority road sections.

The document consists of seven major chapters which, following an introduction, analyse the current level of development of cycling tourism and bicycle trails in Croatia, describe internationally relevant trends in cycling tourism and the use of bicycles in the tourism offering, provide a SWOT analysis, focus on the lines and objectives of cycling tourism development in Croatia by 2020, and explain development incentive measures and funding models. In the last chapter, the document describes the main development projects (infrastructure, legislation, education, improvements to the cycling tourism offering, information systems and marketing).

The good point is that from the very beginning the document establishes the role of associations in cycling tourism development. In the section dealing with the current state of cycling tourism development, in-depth interviews are conducted with stakeholders, including professional associations (Association of Croatian Travel Agencies, Croatian Cycling Federation, Croatian Hunting Federation, Croatian Mountain Rescue Service) and civic associations (Association for Nature and Environmental Protection "Green Osijek", Cycling Association "Pedal").

The document goes on to assign active roles to associations in all areas required and wherever possible. The key roles of associations, aimed at fostering cycling tourism development, can be encapsulated in several functions:

- **Advisory function:** Together with the Ministry of the Interior and with cycling tourism service providers, cycling associations are responsible for developing cycling tourism-related legislation.
- **Infrastructure planning and development function**: Cycling associations are responsbile for planning, building and monitoring bike routes, for keeping bike route information bases and for providing support to cycling tourism map making.
- **Educational function**: The task of cycling associations, in cooperation with tourist boards, is to organise an educational system about the importance of cycling tourism.
- **Tourism product development function**: Together with other stakeholders in tourism, cycling associations are responsible for designing new cycling tourism products, organising sports bike events and developing a bike-share system.

The document focuses on a good practice example, namely the **EuroVelo** project, representing a European network of bike routes, headed by the European Cyclists' Federation.

The Action Plan for Cycling Tourism Development is a comprehensive document that identifies and involves all stakeholders in the area of development of this form of tourism.

The aim of the **Action Plan for Social Tourism Development** is to establish a framework for developing social tourism products. In addition to an introduction, conclusion and abstract, the document comprises seven more chapters. Beginning with good practice examples of social tourism development in the EU, the document then illustrates the current state of social tourism supply and demand in Croatia, presents a SWOT analysis and describes development guidelines for social tourism development in Croatia by 2020, as well as incentive measures and funding models for social tourism development in Croatia. Finally, key projects aimed at developing the social tourism offering in Croatia are presented.

The term *udruga* (association) is mentioned as many as 75 times in the Action Plan while the term *civilni sektor* (civil sector) is mentioned only once.

A particularly positive aspect of the document lies is the fact that it clearly outlines the roles of various associations in the development of specific social tourism products, such as:

- **The development of a social tourism product aimed at children (aged 7 to 17) and young adults (aged 18 – 25):** The Croatian Youth Hostel Association, acting as programme coordinator, is to revitalise old and abandoned buildings and repurpose them as hostels, and develop a tourism offering for vulnerable and disadvantaged young people.
- **The development of a social tourism product aimed at pensioners:** The programme coordinator is the National Pensioners' Convention of Croatia and in collaboration with other pensioners' associations is to undertake activities to develop a tourism offering as well as infrastructure for disabled persons, and develop guidelines for making necessary adjustments to accommodation facilities to accommodate disabled persons.
- **The development of a social tourism product aimed at Homeland War veterans and victims:** Coordinated by the Ministry of Veterans' Affairs together with veterans' associations, the programme aims to market the products and services of veterans'

associations for tourism consumption and to professionally train Homeland War veterans and victims for jobs in the field of social tourism to combat poverty and social exclusion.

- **The development of social tourism:** The Association of Croatian Travel Agencies together with the Croatian Association of Independent Travel Agents is in charge of designing educational programmes for travel agency workers concerning the special needs of various target groups in social tourism and is responsible for the specialisation of travel agencies to provide services to target groups in social tourism.

The Action Plan presents examples of good practices in social tourism development in Europe with regard to providing support for adjustments to tourism facilities and services to meet the requirements of people with special needs (Norway, the UK, France) and to subsidising tourist travel for economically disadvantaged persons (Hungary, France, Denmark). The Action Plan recognises associations as an exceptionally important stakeholder and has, accordingly, assigned them active roles in **planning, executing and controlling the effects of social tourism products**.

The **Action Plan for Green Tourism Development** aims to systematically incorporate the concepts of "green" and "greening" into the planning and management of tourism development in Croatia. The document contains four main chapters (Introduction, Environmental Sustainability of Tourism, Tourism-related Evaluation of Natural Heritage, References).

In the document, the term *udruga* (association) is mentioned 39 times and the term *civilno društvo* (civil society), 22 times.

Civil society associations, professional associations and civic associations are recognised as an important stakeholder in green tourism development and have been assigned active roles in accomplishing individual objectives. Given the broad spectrum of tasks and activities laid out by the Action Plan, the roles of associations in green tourism development are defined as follows:

- **Promoting green infrastructure:** This is the shared task of green associations and other stakeholders, aimed at encouraging the recognition of valuable natural heritage, ensuring the preservation and revitalisation of heritage through interpretation centres of local heritage, etc.
- **Providing education:** Green associations, together with guild associations and other stakeholders, are responsible for educating small lessors about "green" business operations. They also have the task of preparing educational material that will assist the providers of hospitality and other tourism services to design and provide natural heritage-based services.
- **Ensuring product innovation:** It is the task of green associations, together with guild associations and other stakeholders, to develop and deliver projects aimed at developing tourism infrastructure in parks, marketing local products, and developing tourism infrastructure in protected areas.

The Action Plan presents examples of good practices in encouraging green tourism development, which need to be continued in the future, and it underlines initiatives to reward green businesses (for example, the Association of Croatian Travel Agencies awards green certificates to travel agencies; the Sun Association and Green Istria Association are developing programmes for the environmentally sustainable management of small tourism facilities in Croatia; the Our Beautiful (Homeland) Association awards the Blue Flag to beaches and marinas; the National Association of Family and Small Hotels awards the Eco Hotel certificate for sustainable tourism). An especially positive aspect of the document is that by highlighting the examples of good practices of various associations, it could ultimately spur the even greater involvement of associations in green tourism development. The document gives the example of the first eco-tourism agency, Zlatna Greda, established by the Green Osijek Association, and

mentions the activities of the BIOM Association, the Sun Association and the Ecological Association Krka Knin.

The aim of the **Action Plan for Tourism Development in Rural Areas** is to establish a joint development platform for the coordinated action of major institutional stakeholders relevant to the development of tourism in Croatia's rural areas, in particular in the context of boosting the development of rural tourism/agritourism.

The document comprises eight main chapters (Introduction, Tourism in Rural Areas – Definitions, Institutional Framework, Rural Tourism Supply and Demand in Croatia, International Trends in Rural Tourism Development, Good Practice Examples in the Competitive Environment, Key Success Factors of Rural Tourism Development, and Strategic Lines of Rural Tourism Development in Croatia by 2020).

The term *udruga* (association) is mentioned 40 times in the document while the term *civilno društvo* (civil society) is not mentioned at all. The key stakeholders in rural tourism development, alongside the Ministry of Tourism, the Ministry of Agriculture and others, are professional associations in rural tourism such as the Association for the Rural Development of Istrian Villages, the Association for Agritourism Konavle and the Croatian Network for Rural Development, as well as professional associations in tourism (Association of Employers in Croatian Hospitality, National Association of Family and Small Hotels, and the Croatian Camping Association).

The document highlights the good practice examples of associations such as the Association for Agritourism Konavle, Dalmatinska Zagora Region Tourism Association and the Association for the Rural Development of Istrian Villages.

The Action Plan explains the objectives and main lines of development, but assigns only two roles to the Ministry of Agricultural and none to other stakeholders in rural tourism development. Another drawback is that the document fails to clearly assign roles, in particular with regard to rural tourism products. The Action Plan also fails to give active roles to associations in **planning and delivering** products, referring to tours of nature sights and cultural sights, the development of special events (cultural, religious, traditional), the development of themed trails, participation in themed activities and simple outdoor activities, and learning about the culture of rural life and work. Associations could play an important **educational** role in ensuring better information and education to service providers in rural tourism areas. To facilitate the development of tourism in rural areas, associations could have a vital role in fostering **collaboration** by bringing together local producers and products and by encouraging the exchange of experiences, to help enrich the offerings of rural areas.

The **Action Plan for Congress Tourism Development** seeks to objectively present the current position and development potential of the "business gathering" product in Croatia. This document provides a vision, guidelines and activity schedule that should enable Croatia, by engaging a variety of stakeholders and relying on structural EU funds among other things, to move into the market as a country offering attractive destinations for business gatherings.

The Action Plan consists of ten main chapters (Introduction, Features of the Product "Business Gatherings" in Croatia, The International Environment, Key Success Factors, SWOT Analysis, Vision, Objectives, Programmes, Programme Operationalisation).

The term *udruga* (association) is mentioned 31 times in the document while the term *civilno društvo* (civil society) is mentioned only once.

The Action Plan recognises and defines the role of professional associations in tourism development. The professional associations of hoteliers and travel agencies, together with the Croatian Association of Congress Tourism Professionals, are responsible for:

- building the capacities of convention bureaus and associations,
- improving the quality of services in congress tourism,
- increasing the ability to attract business gatherings to Croatia.

Civic associations are not included in the document and are not seen as a stakeholder in congress tourism development, which is completely reasonable, given the field of activity of civic associations. Nevertheless, such associations could become indirectly involved in congress tourism development, as a supplement to the primary travel motivation of guests (participation in a congress), for example, by organising leisure time for congress (business) tourists (concerts, tours, etc.).

An analysis of tourism development documents at the national level reveals that the importance of associations (professional as well as civic) for tourism development has been recognised, in particular in tourism development action plans. Seven out of nine tourism development action plans acknowledge associations as a stakeholder (the exceptions are the Action Plan for Cultural Tourism Development and the Action Plan for Health Tourism Development). The situation is not as good, however, regarding what roles the action plans assign to associations. While roles are assigned to professional associations in seven of the action plans, only three documents assign roles to civic associations.

Strategic tourism-development documents at the county level

The following section analyses the strategic tourism-development documents of two Croatian continental counties, the most developed in terms of tourism, based on their tourism traffic in the past five years as published in the Croatian Ministry of Tourism's "Tourism in Figures". These counties are the City of Zagreb and Karlovac County. It should be noted that the City of Zagreb does not have a comprehensive strategic document for tourism development. Instead, strategic lines of development are included in its Marketing Plan. Hence, this paper analyses the Master Plan of Tourism Development of Krapina-Zagorje County, which is ranked third with regard to the number of tourist arrivals and overnights. To conclude, the following documents are analysed below:

- Situation Analysis and Tourism Development Strategy of Karlovac County by 2025
- Master Plan of Tourism Development of Krapina-Zagorje County for the period 2016 – 2025

The **Situation Analysis and Tourism Development Strategy of Karlovac County by 2025**, the primary tourism development document of Karlovac County was commissioned by the Karlovac County Tourist Board and developed by Horwath Consulting, Zagreb. In addition to providing a diagnosis and background, the 81-page document presents a framework for tourism development in Karlovac County by 2025, together with key guidelines, an action plan and a marketing plan.

The terms *udruga* (association) and *civilno društvo* (civil society) are not mentioned at all in the document. Accordingly, the document fails to assign active roles to both professional and civic associations in any tourism product or in any related development steps. Associations, however, could play an especially powerful role in developing the following tourism products:

- **Activity holidays:** maintaining sports/recreational trails and routes, sport centres and courts; organising sport lessons, maintaining outlooks and picnic areas
- **Rural tourism**: designing gastronomic routes and wine roads, setting up interpretation centres
- **Hunting and fishing tourism**: maintaining hunting lodges, breeding centres and fish nurseries

- **Cultural tourism**: developing cultural tours, making autochthonic souvenirs, designing events
- **Food tourism and wine tourism**: shops offering traditional products, gastronomic interactive workshops, wineries and olive oil producers, food and beverage producers with tasting room

The above indicates that the document does not recognise either professional or civic associations as stakeholders in tourism development nor does it assign them any active roles in any segment. The potential for involving associations in the tourism development of Karlovac County is seen primarily in the sphere of designing and developing infrastructure for the above-mentioned tourism products.

The **Master Plan of Tourism Development of Krapina-Zagorje County for the period 2016 – 2025** was commissioned by Krapina-Zagorje County and developed by Horwath Consulting, Zagreb. The 341-page document presents a situation and market analysis, a strategic framework for tourism development in Krapina-Zagorje County by 2025, an investment plan, a competitiveness programme, an operational marketing plan, an action plan and recommended measures for environmental protection. As neither of the terms *udruga* (association) and *civilno društvo (sektor)* (civil society/sector) are mentioned even once in the document, it is evident that associations are not recognised as a stakeholder in the tourism development of Krapina-Zagorje County.

Considering the capabilities civic society associations possess, they could have important educational, advisory and development roles as well as a support-providing role with regard to the public and private sectors, in the following activities presented in the action plan:

- **Investment projects:** establishing a Krapina-Zagorje County Visitor Centre, building a theme park, developing the Kumrovec golf course
- **Competitiveness-enhancing projects:** developing theme routes such as The Best of Zagorje, In the Footsteps of the Krapina Neanderthals, and Zagorje a la Carte; organising art and literary workshops; designing wine roads; developing cycling and horse-riding trails, providing support to agritourism development, organising the event Autumn in Zagorje.

The comprehensive results of the analysis of tourism development documents at the national and regional levels are presented in table 1.

Table 1: Recognition of the role of associations in strategic documents of tourism development in Croatia

Document	Professional associations		Civic associations	
	Recognised as a stakeholder in tourism development	Assigned an active role	Recognised as a stakeholder in tourism development	Assigned an active role
Strategic tourism-development documents at the national level				
Tourism Development Strategy of the Republic of Croatia by 2020	+	+	+	-
Action Plan for Nautical Tourism Development	+	+	+	-
Action Plan for Health Tourism Development	+	+	-	-

Document	Professional associations		Civic associations	
	Recognised as a stakeholder in tourism development	Assigned an active role	Recognised as a stakeholder in tourism development	Assigned an active role
Action Plan for Cultural Tourism Development	-	-	-	-
Action Plan for Cycling Tourism Development	+	+	+	+
Action Plan for Social Tourism Development	+	+	+	+
Action Plan for Green Tourism Development	+	+	+	+
Action Plan for Tourism Development in Rural Areas	-	-	-	-
Action Plan for Congress Tourism Development	+	+	-	-
Strategic tourism-development documents at the county level				
Situation Analysis and Tourism Development Strategy of Karlovac County by 2025	-	-	-	-
Master Plan of Tourism Development of Krapina-Zagorje County, 2016 – 2025	-	-	-	-
TOTAL	**7**	**7**	**5**	**3**

Source: author

In 7 of 11 analysed national- and regional-level strategic documents on tourism development, professional associations are recognised as an important stakeholder in tourism development, and in 7 documents they are assigned active roles and responsibilities. Civic aasociations, on the other hand, are recognised as a stakeholder in five documents but are given roles and responsibilities in only three of them. It is evident that the role of associations is recognised mostly at the national level but is completely neglected in the tourism development strategies of two continental counties that are the most developed in terms of tourism. Based on the conducted analysis, the formulated hypothesis is partially supported:

In the existing tourism development strategies (strategic documents), associations are recognised as a partner or important stakeholder in the tourism development of destinations.

Namely, associations are recognised as a stakeholder in tourism development at the national level but are completely neglected at the county level.

Although, some strategic documents of tourism development do recognise and identify associations as a stakeholder in tourism development, they largely fail to assign them any active role in the execution of specific activities. In other words, despite the potential that associations possess, they are not involved to any sufficient extent in devising tourism development strategies in general or development strategies for specific forms of tourism in particular.

Considering the potential and capabilities of associations, they should be given prominent roles in the **planning, organisation and execution** of activities; none the less important would be the **educational and advisory roles** they could play as well as the **role in providing support** to other interest groups.

In assessing the recognition of associations as stakeholders in tourism development and whether they are assigned active roles in strategic documents, it is important to point out that an association was positively assessed providing it was mentioned as a stakeholder in at least one specific part of a document (in strategic directions) or providing it was assigned a role if listed in a group of stakeholders in the realisation of at least one specific activity.

These findings are consistent with the results of a similar analysis of the most developed coastal counties, which also indicates that associations are not recognised as a stakeholder in the tourism development of Istria County and Dubrovnik-Neretva County.

5. Conclusion

The analysis indicates that civic associations and professional associations are recognised as stakeholders in tourism development mainly at the national level, and that in most documents an active role is assigned to professional associations. At the county level, however, associations are not recognised as a stakeholder in tourism development and no active roles are assigned to them in any area. In future documents, the roles of associations will need to be elaborated and defined in even greater detail for individual forms of tourism, which then should represent a basis for planning the development of each form of tourism at lower levels.

One of the study's limitations is that it lacks an international context as Croatia is the only country included in the conducted analysis. Another limitation is the fact that the study focused on only two counties located in the continental part of Croatia. This study, together with a previous study in two coastal counties (that yielded matching results), covers only 19% of the total number of Croatian counties.

Future research should focus on analysing the strategic documents of tourism development in the remaining counties in Croatia as well as the level of various self-government units to determine whether there is greater recognition of associations as a stakeholder in tourism development at the local level. It would also be interesting to compare results with those of certain countries that are more developed in terms of tourism and to investigate whether such countries recognise to a greater extent the importance of associations in tourism development and what roles, in this context, have they assigned to associations.

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CREATING AND TESTING NEW SERVPERF QUESTIONNAIRE ADJUSTED FOR ELEMENTARY SCHOOLS IN CROATIA

ABSTRACT

Schools in Croatia have different level of satisfaction of final users needs. In order to achieve fulfilment of different needs, school managements should have inputs about level of satisfaction of those needs and which kinds or groups of needs should be satisfied better. Service performance questionnaire SERVPERF is originally used in different kinds of industries (banking, fast food, sales, cleaning services, pest control etc.). It is almost appropriate questionnaire to deal with problem of this paper. However, SERVPERF questionnaire is not suitable for use in elementary schools with underage people and needs to be adjusted properly. Therefore, aim of this paper is to create and test new Servperf questionnaire adjusted for primary schools and underage people. Likert scale (1-7) as very commonly involved instrument in researches of this kind is used in methodology of this paper through Servperf questionnaire. In this method, respondents (final users) as well as professional school staff are asked to evaluate if questions of standard Servperf questionnaire are suitable for use in elementary schools and for underage people. Results of this paper should indicate Servperf questionnaire which is specifically adjusted for underage people in elementary schools. Final aim is to create new type of Servperf called ELEDSERVPERF (Elementary Education Service Performance). Testing of Servperf is done according to Esomar Guidelines for researches among children and youth. Future researches based on this instrument could indicate what are the specific areas of improvement to achieve greater satisfactions of underage students in elementary education and their better preparedness for higher levels of education (secondary school, university…)

Key words: *elementary education, public services, service performance, Servperf testing, Eledservperf.*

1. Introduction

Elementary schools are very important institutions for creating better society. Those are institutions where young people have their first contact with various school subjects, science, team work and where they create their preferences regarding their future education. Professional staff of elementary schools as well as maintenance staff play important role in creating appropriate environment for successful education. They also play role in creating better and more quality people in general.

In this paper focus is on finding the most appropriate instrument for analyzing performance of public service in elementary schools. Higher level of public service performance most likely results in higher satisfaction of final users - underage students of elementary schools. Servperf questionnaire is commonly used method in assessment of service performance in different fields of human activities.

In education system Abdullah compared relative effectiveness of three measuring instruments in order to identify which service performance measurement scale is the most appropriate for

institutions of higher education sector. He concluded that his HEdPERF model had the superior measuring capability in terms of unidimensionality, reliability, validity and explained variance than the other two models: SERVPERF and HEdPERF-SERVPERF (Abdullah, 2006). In Croatia, Legčević evaluated relative effectiveness of two measuring instruments of service quality (HEdPERF and SERVPERF) within a higher education setting. Namely, at University J. J. Strossmayer in Osijek, Croatia she collected data from 1494 students which were subjected to factor analysis (Legčević, 2010).

Group of authors checked various databases worldwide searching for different service quality scales (Servperf, HEdPERF and Servqual) and comparing them mutually with special emphasis on HEdPERF scale (Silva et al., 2017). Another group of authors tried to diagnose the applicability of the perceived service quality measurement scale to students and to diagnose the student satisfaction level in higher education (Nadiri, Kandampully and Hussain, 2009). Through databases search, author of this paper did not find studies in which Servperf scale was tested by students of elementary schools in Croatia or in the world.

Therefore, focus of this paper is to test and create questionnaire specifically made for analyzing and evaluating services in elementary schools by final users – underage students. Standard Servperf questionnaire was originally used in banking, fast food, sales, cleaning services, pest control etc... Such Servperf questionnaire is not applicable in elementary education system and adjustments need to be made. That is why testing of questionnaire is done in education system in order to create new, adjustable Servperf questionnaire which will be used for students of elementary school. Such Questionnaire should be named ELEDSERVPERF as acronym for Elementary Education Service Performance. Since sample of this research is group of elementary education underage students, it is done according to ESOMAR guidelines for social and opinion research among underage people.

2. SERVPERF questionnaire

In parallel with the development of theoretical conceptualisations related to service quality, scientists have also developed measurement instruments. Today, the most commonly used measuring instruments are SERVQUAL and SERVPERF. Both are based on a disconfirmation paradigm according to which customer expectations play a significant role in forming service quality ratings (Dedić, 2010). The Servqual original measurement instrument was developed in 1985. and is the most widely used in measuring service quality (Parasuraman et al., 1985; 1988; 1991). Over the years, some authors such as Cronin and Taylor (1992) and Ennew et al. (1993) have criticized the Servqual approach in such a way that "expectations cannot be a relevant determinant of a general assessment of service quality since it contributes to overall customer satisfaction with a particular service and there should be clear distinction between these two constructs" (Dedić, 2010, 33). Namely, they think expectations can not be included in process of service quality assessment because service quality assessment is considered to be attitude of service users (Cronin and Taylor, 1992). Regarding expectation researches, different contexts of industries may imply different sources and types of customer expectations (Zeithaml et al, 1993).

The original Servqual authors themselves have acknowledged that "...the elements of Servqual represent the fundamental criteria of evaluation." (Parasuraman et al., 1993, 145). As a follow-up to the Servqual measuring instrument, the Servperf measuring instrument was developed by Cronin and Taylor in 1992. Servperf is acronym created by merging the words Service and Performance. Unlike Servqual, with Servperf, only measures of perception of the anticipated service are included in the instrument, on the basis of which the assessment of the overall quality of service is calculated. Thus, the authors of the questionnaire claim that delivery performance is a sufficient measure of service quality (Cronin and Taylor, 1992). For the reasons stated above, a Servperf was selected for this paper because both Cronin and Taylor have proven in the research to have a higher predictive power of their instrument than the original Servqual has (Cronin and Taylor, 1992). The Servperf method, unlike the method

Servqual, examines only the level of quality of the received service and compares it to the ideal services (Stoma, 2012). Servperf is most commonly used in the service industry, and its advantage over the Servqual measure was proven by Cronin and Taylor in 1992 in banking, fast food sales, dry cleaning service and pest control (Srivastava and Rai, 2013; Rai, 2013). According to Jaraiz & Pereira, it is advisable to use between 10 and 12 items in questionnaire, in addition to including a question regarding the general satisfaction with the service, and another one regarding the fulfilment of the client expectations (Jaráiz and Pereira, 2014). Servperf questionnaire used in this paper is consisted of 24 items.

2.1. Testing of SERVPERF questionnaire

The Croatian education system provides educational services at the level of: pre-school, elementary, secondary and higher education and the adult education system (Mihanović, 2010). In this paper focus is on elementary education and its users. Last years in Croatia there is trend of professionalization in the non-profit sector, so all non-profit organizations try to enhance their effectiveness (Alfirević et al., 2011). "The education sector is a part of the public sector which, as opposed to the profit sector, has the mission to meet public needs. In most countries, the public sector evaluation is done by using certain performance indicators." (Mihanović et al., 2016, 48).

Considering those facts and in order to adapt the Servperf instrument to elementary schools, research was done in elementary school Meje in Split, Croatia by author of this paper in March 2018. Interviews, group interviews as well as completing the survey questionnaire by underage students were organized and led by author of this paper in direct contact with members of professional staff and with underage students. There were 42 students and 12 members of professional staff in sample. Response rate among students was 93 % since 3 students were not able to respond to research. Response rate among professional school staff was 87 %. Research consisted of two pre-examination phases and completion of the questionnaire. In the first phase, pre-examination of professional school staff (principal, psychologist, educationalist, librarian, professors of various subjects) was done by interview and group interview after reading the questionnaire. In the second phase, pre-examination of end users of elementary school services (8th grade students) was done by group interviews after reading the questionnaire. Methods were: interview, group interview and completing the questionnaire after reading the corrected questionnaire. In pre-examination phases, the content validity of the questionnaire was tested, i.e. the degree to which the instrument covers the relevant content of the measurement subject. Given that all elements of the research have been taken from previous studies (Cronin and Taylor 1992; Dagger and Sweeney, 2007; Gonzalez et al. 2007; Larivière 2008), the use of the Servperf measurement instrument is considered appropriate to the elementary school environment. Since the original measuring instrument was used in the analysis of quality of services not related to education, a verbal adjustment of the existing questions was made for use in the domain of analysis of the quality of services in elementary education. The preliminary research on the understand ability of the questionnaire was given particular importance. Factors considered by Kukic and Markic (2005) and Zelenika (2000) to be particularly important when designing and conducting research using the questionnaire were analyzed during the pre-examination of the questionnaire. Thus, the following actions were performed as part of the pre-examination: testing the clarity of the instructions to the respondents, identifying questions as unclear or unspecified by the respondents, testing the readability and usability of the questionnaire, testing the visual appeal of the questionnaire, testing the time required to complete the questionnaire in order to avoid fatigue of the respondents, collecting comments to improve the quality of the measuring instrument. The feedback collected through pre-examination was used to reformulate and refine specific questions in order to improve their comprehensibility.

Respondents in the first phase of the pre-examination were 12 experts from the researched environment (professional school staff – principal, psychologist, educationalist, librarian, and

professors of various subjects). They were examined through in-depth interview and group interview and they were presented with a preliminary version of the survey questionnaire. Through their analysis of the instructions for filling in, the content and formulation of each individual question, the layout of the questionnaire, etc., they gave their expert judgment on the applicability of the questionnaire for the population of school underage students in the focus of research. Questions in new adjusted questionnaire will be changed according to the results of that research. Namely, professional school staff knows their students the best and know what formulation of questions would be most comprehensive to them. Further, job of staff is to educate students/pupils - potential respondents for this research. Professors are the most aware of student's way of thinking, attitudes and potential problems that respondents might see in the questionnaire regarding the comprehensibility, clarity, precision, length of the survey, etc. Students are end users of the services whose quality we measure. They are representative sample for all 8th grade students of elementary schools in Croatia. Namely, all students in Croatia should have the same learning program, same standards of learning, same duration of school year, same school subjects (Croatian, English, geography, history, chemistry…) and same types of maintenance staff (cleaning staff, repairment staff…).

2.1.1. Phase 1 of pre-examination: Interviews with professional staff

According to various factors written above, here are the results of Phase I of pre-examination after interviews with professional staff:

Testing the clarity of the instructions to the respondents:
All surveyed experts believe that the instructions given at the beginning of the survey questionnaire are sufficiently clear and that potential respondents have already had the opportunity to encounter a similar type of questionnaire in which the degree of agreement with a particular statement on the 5 or 7 step scale is required. They suggest a possible repetition of the example table before the last two questions, which do not require the expression of a degree of agreement but an assessment of the overall quality of services and an assessment of the degree of satisfaction with the quality of services.

Identifying questions that were defined as unclear or unspecified by the respondents:
Through an in-depth interview, the experts made the most suggestions, comments and views regarding this factor. So they identified questions from the SERVPERF questionnaire that they considered to be vague and unclear to them and to the respondents (eighth grade students) when filling in the questionnaire. They believe that simpler words should be used closer to the jargon used by students, and that questions should be as concrete and substantiated as possible. Before any question, they felt that in one paragraph it should be defined the school staff whose services were evaluated in the questionnaire as well as what was included in the service and who could carry it out at school. Considering that there are more such questions, they are listed below in the order in which they are listed in the questionnaire:

1. The school has modern equipment.
Experts believe that this issue should be more specific, i.e. define what is meant by the equipment whose modernity the respondents should evaluate. They believe that students would better understand and answer the question when stating what is meant by equipment such as computer equipment, laboratory equipment (microscopes, etc.), presentation projectors, air conditioners, etc.

3. School staff looks tidy and expert.
Instead of the word "expert", professionals suggest the word "professional".

5. When the school promised to do something by a certain time, it did.

Experts believe that this question is very similar if not the same as question 8.

7. The school provides the correct service from the first attempt.
Respondents suggest providing examples of services such as "literary meetings", school events, library services, etc. on this question.

8. The school provides services at the time it promised.
Experts consider this issue to be very similar, if not the same as question 5.

9. The school insists on service without error.
Respondents felt that the question could be clearer and suggested further clarification of the question by adding part of the sentence "… or, the service is not lacking".

10. School staff tells me exactly when a particular service will be provided.
Here, respondents think it would be a good idea to cite an example such as a timeline (a document available on the school's website that lists plans for examinations, questioning etc.

11. School staff gives me a quick service.
Respondents suggest reformulating the question in "School staff responds quickly to my requests" and indicating what kind of services are meant (library, cleaning of toilettes etc.)

13. School staff is never too busy answering my requests.
Respondents suggest dropping the negation in this question so that young respondents do not get confused when answering.

15. I feel safe when attending classes.
They suggest clarification in mind (security service, no bulling, harassment, etc.)

18. School staff is paying particular attention to me.
Experts suggest adding "as needed".

21. School keeps in mind what is best for me.
Experts suggest reformulating the question in "…what is in my best interest"

22. School staff understands my specific needs.
Experts suggest specifying the needs or defining what are the specific needs - competition, sport, gifted students

23. Overall, how would you rate the quality of service you receive at your school?
They believe that respondents will not be able to distinguish between questions 23 and 24 because they are very similar, so they propose a reformulation.

24. Overall, how would you rate your satisfaction with the services you receive at school ?
They believe that respondents will not be able to distinguish between questions 23 and 24 because they are very similar, so they suggest reformulating question 24. in this way: "How satisfied are you with all the services at your school?"

Testing the readability and usability of the questionnaire:
Experts believe that the questionnaire is readable and usable for research in which it should be used after certain modifications have been made in the form of concretization, citing examples and reformulations.

Testing the visual appeal of the questionnaire:
Experts believe that the questionnaire is visually appealing, simple, and it is good that it is physically conceived on two pages rather than on two sheets.

Testing the time required to complete the questionnaire in order to avoid interviewee fatigue:
Experts believe that the number of questions is moderate and that it will not take much time to complete the questionnaire by the target group (eighth grade students) given their frequent completion of knowledge tests, examinations, etc. where speed, rounding, thinking are also required. School experts think that underage students of 8th grade have considerable experience so that they will not get tired during the exam.

Collecting comments to improve the quality of the measuring instrument:
All comments collected have been cited before.

Phase I of the preliminary research (individual and group interviews with experts) resulted in the change of certain words, word order, more precise definition of the questions, citing examples, etc. which are objectively of the highest quality and most meaningful. In adapting the SERVPERF questionnaire to elementary education, special attention was paid to preserving the structural stability of the instrument with respect to the elements that make up the individual dimensions of perceived quality of service.

2.1.2. Phase 2 of pre-examination: Group interviews with eight grade students

The respondents in the Phase II of the pre-examination are the final users of school - the eighth grade elementary school students. They are the sample that is, according to their characteristics, representative of the population in which the future, improved, suggested Servperf will be used. Respondents are interviewed in group interviews, regardless of the fact that in the main survey respondents will be examined using a questionnaire. Namely, interviews are the best way to provide feedback on incomprehensible questions, ambiguities, etc. The questionnaire corrected by professional school staff is presented to groups of eighth grade students who were then interviewed in group interviews in terms of analyzing the factors that Kukić and Markić (2005) and Marušić and Vranešević (2000) consider especially relevant when designing and conducting research using a survey questionnaire. Respondents and students of eighth grades were interviewed in two groups by author of this paper. Namely, classroom was not big enough for all 42 students at one time. Furthermore, communication was smoother and easier in two smaller groups and atmosphere was more relaxed. First group consisted of 20 students and second group consisted of 22 students. They highlighted the following conclusions through a group interview:

Testing the clarity of the instructions to the respondents:
Respondents agreed that the instructions were sufficiently clear and that the seven-step scale was excellent because it provided them with a wide range of degree of agreement with the stated claims.

Identifying questions that were defined by the respondents as unclear or unspecified:
As already stated first phase of pre-examination consisted of in-depth and group interviews with professional school staff. They are best acquainted with the behaviour and mindset of eighth grade students. They specified and clearly defined potential issues of questionnaire in details. Taken that in consideration and given such thoroughness, eighth grade students in group interviews did not single out any question as unclear or indeterminate.

Testing the readability and usability of the questionnaire:
Eighth-grade respondents found the questionnaire to be readable and usable for the research in which it should be used.

Testing the visual appeal of the questionnaire:
Respondents suggest adding coloured elements to the questionnaire, which would, however, significantly increase the cost of the test.

Testing the time required to complete the questionnaire in order to avoid interviewee fatigue:
Respondents point out that they regularly encounter more time-consuming and content-intensive questionnaires and that completing this Servperf questionnaire does not represent them fatigue.

Collecting comments to improve the quality of the measuring instrument:
All comments are stated above

The results of the phase II of pre-examination in which the students were examined was the change of particular words, words order, more precise definition of questions, etc. Afterwards, main part of the research that consisted of completing the questionnaire was conducted. Namely, eighth grade elementary school students were asked to complete corrected, revised questionnaire in accordance with the results of the first and second phases of the pre-examination. The results are set out in the tables below.

2.2. Results of the ELEDSERVPERF testing

In the questionnaire below, new suggested Eledservperf questionnaire for use in elementary schools is shown. Underage students were asked different questions adjusted to their age and specific surrounding (elementary school). Results of every dimension and every question are shown in numbers. Average grade of all students for every question is calculated in the way that all grades for specific question are added together and divided by the number of respondents. Index is calculated as the ratio of average grade and maximum potential grade on scale (7) multiplied with 100. Results of all five dimensions and 24 questions for this specific school with explanation are shown in presentation below.

DIMENSION	NAME OF THE DIMENSION	AV. GRADE	INDEX
1	**TANGIBLE**	**3,43**	**49,00**

1. The school has modern equipment (IT equipment, laboratory equipment, projector…)

QUESTION	AV GRADE	INDEX
1.	**3,14**	**44,86**

2. The school building, the environment, the classrooms, the boardroom, the school rooms, corridors and toilets are visually appealing.

.QUESTION	AV GRADE	INDEX
2.	**2,52**	**36,00**

3. School staff looks tidy and professional.

QUESTION	AV GRADE	INDEX
3.	**4,55**	**65,00**

4. School materials, brochures, billboards, bulletin boards, tags and other materials are visually appealing.

QUESTION	AV GRADE	INDEX
4.	3,50	50,00

DIMENSION	NAME OF THE DIMENSION	AV. GRADE	INDEX
2	**RELIABILITY**	3,00	42,86

5. When the school promised to do something by a certain time, so it did.

QUESTION	AV GRADE	INDEX
5.	2,86	40,86

6. When I have a problem, the school shows a genuine effort to solve it.

QUESTION	AV GRADE	INDEX
6.	3,05	43,57

7. The school provides the correct service from the first attempt (e.g. library services, school events, various events…)

QUESTION	AV GRADE	INDEX
7.	3,07	43,86

8. The school provides services at the time it promised.

QUESTION	AV GRADE	INDEX
8.	3,00	42,86

9. The school insists on service without error or services are not defective.

QUESTION	AV GRADE	INDEX
9.	3,00	42,86

DIMENSION	NAME OF THE DIMENSION	AV. GRADE	INDEX
3	**RESPONSIVENESS**	3,65	52,14

10. School staff tells me exactly when a particular service will be provided (egg timing accuracy, "literary meetings"...)

QUESTION	AV GRADE	INDEX
10.	3,21	45,86

11. The school staff provides me with a quick service or a quick response to my requests.

QUESTION	AV GRADE	INDEX
11.	3,47	49,57

12. School staff is always ready to help me.

QUESTION	AV GRADE	INDEX
12.	4,55	65,00

13. School staff always has time to respond to my requests.

QUESTION	AV GRADE	INDEX
13.	3,38	48,29

DIMENSION	NAME OF THE DIMENSION	AV. GRADE	INDEX
4	**ASSURANCE**	**4,23**	**60,43**

14. The behaviour of the school staff gives me confidence.

QUESTION	AV GRADE	INDEX
14.	**3,45**	**49,29**

15. I feel safe when attending classes (security service, no bullying…)

QUESTION	AV GRADE	INDEX
15.	**4,21**	**60,14**

16. School staff is always polite to me.

QUESTION	AV GRADE	INDEX
16.	**4,12**	**58,86**

17. School staff has the knowledge to answer my questions.

QUESTION	AV GRADE	INDEX
17.	**5,14**	**73,43**

DIMENSION	NAME OF THE DIMENSION	AV. GRADE	INDEX
5	**EMPATHY**	**3,78**	**54,00**

18. School staff is paying particular attention to me.

QUESTION	AV GRADE	INDEX
18.	**3,00**	**42,86**

19. School hours meet my needs.

QUESTION	AV GRADE	INDEX
19.	**5,07**	**72,43**

20. School staff treats me with care.

QUESTION	AV GRADE	INDEX
20.	**3,95**	**56,43**

21. The school constantly keeps in mind what is in my best interest.

QUESTION	AV GRADE	INDEX
21.	**3,21**	**42,86**

22. School staff understands my specific needs (sports and other competitions, gifted students…)

QUESTION	AV GRADE	INDEX
22.	**3,67**	**52,43**

23. Overall, how would you rate the quality of service you receive at your school?

QUESTION	AV GRADE
23.	**3,93**

24. Overall, how satisfied are you with the services you receive at your school?

QUESTION	AV GRADE
24.	**4,12**

Source: author

The average rating of all 5 dimensions (tangible, reliability, responsiveness, assurance, and empathy) is 3.62, while the overall quality rating of all services evaluated by the users in question 23 is 3.93. Those results suggest that control question 23 established a high degree of similarity in the average scores. Question No. 24 assessed the overall satisfaction with school services which is 4,12 in this case. The relationship between perceived service quality and service user satisfaction in the main survey can be determined by regression analysis. Results in numbers are not that relevant for this specific purpose of creating and testing new adapted Servperf questionnaire for use in elementary schools for underage students. The most important aim was to create new ELEDSERVPERF which will be more simple, more understandable and therefore, more applicable for use in elementary education system.

3. Conclusion

Service performance questionnaire SERVPERF examines the level of quality of the received services and compares them to the ideal services. Considering the fact it was originally used in other industries (banking, fast food, sales, cleaning services, pest control etc.), it is not absolutely applicable questionnaire in education system. Elementary education as part of education system is even more specific and questionnaire requires significant adjustments in order to be understandable to underage students and appropriate for scientific use in elementary schools. Namely, respondents in elementary education are underage students up to fourteen years old. The problem is how to adapt the Servperf questionnaire to make it understandable to such young respondents and to be relevant research method. Therefore, aim of this paper was to test original Servperf questionnaire and to create new Servperf questionnaire adjusted for underage people in elementary schools. In order to create new SERVPERF questionnaire adjusted to such young, specific respondents, author of this paper conducted a research on representative sample of one city school in Croatia. Likert scale (1-7) as very commonly involved in researches of this kind is used in methodology of this paper through Servperf questionnaire. By analyzing all relevant factors, objective of this paper was to create and test new Servperf questionnaire adjusted for use in elementary schools worldwide. Testing of Servperf is done according to Esomar Guidelines for researches among children and youth.

Methods used in this paper are: personal interview, group interview and completing the survey questionnaire. In those methods, respondents (final users) as well as professional school staff are asked to evaluate if questions of standard Servperf questionnaire are suitable for underage people in elementary schools. In order to create new, adapted Servperf questionnaire following actions were performed: testing the clarity of the instructions to the respondents, identifying questions that were defined by the respondents as unclear or unspecified, testing the readability and usability of the questionnaire, testing the visual appeal of the questionnaire, testing the time required to complete the questionnaire in order to avoid interviewee fatigue, collecting comments to improve the quality of the measuring instrument.

Finally, necessary corrections to the questionnaire were made what resulted in establishing new type of Servperf called ELEDSERVPERF (Elementary Education Service Performance). New ELEDSERVPERF can be defined as more understandable, simpler and more adjustable to young people. Making it more simpler, gives us right to expect more correct and honest answers and larger response rate. Eledservperf questionnaire use in future researches could indicate what are the specific areas of improvement in elementary schools to achieve greater satisfactions of underage students in elementary education and their better preparedness for

higher levels of education (secondary schools, university,...). Improvements in elementary schools could be: more modern equipment, better library services, more interesting school events, visually appealing school materials and brochures, cleaner inside and outside school areas etc. Possible new researches regarding ELEDSERVPERF instrument could be conducted outside of Croatia, on public private partnership school projects or in different kinds of elementary schools depending of the purpose of the research. Given that the current research is limited to one service industry, this paper would need to be validated by future researches. Future studies should apply the measuring instruments in other countries in order to test whether the results obtained are general and consistent across different samples. New ELEDSERVPERF will hopefully result in better public sector service performance for final customers of elementary schools – underage students and in a better and more successful society as a whole.

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ACCOUNTING INFORMATION IN THE FUNCTION OF COST MANAGEMENT AT HIGHER EDUCATION INSTITUTIONS[1]

ABSTRACT

Higher education institutions (hereinafter HEIs) are important part of every society and therefore are continuously included in the different reform processes dominantly aimed at ensuring financial sustainability and increasing quality of education as well scientific processes. In that context, one of the greatest challenges for HEIs is efficient management. Appropriate accounting information system and the usage of cost information is inevitable for successful management at HEIs. Hence, the main aim of this paper is to research the relevant literature regarding usage of accounting information for management purposes with the special focus on the development of cost accounting that is in the function of efficient management. Through the relevant literature review, authors have investigated aforementioned issues in the developed countries and have compared this with the accounting systems at Croatian HEIs. Overall conclusion is that HEIs of developed European countries have become aware of the importance of quality accounting information and have implemented different modern cost methodologies that are improving management process. However, literature research at HEIs in Croatia has shown that their accounting system is still dominantly focused on satisfying legal requirements regarding accounting and financial reporting and not on developing of internal reporting system that will be in the function of efficient cost management.

Key words: *management, higher education institutions, cost, accounting.*

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1. Introduction

Higher education institutions have always been places of knowledge creation and thus provided a base for the social and economic growth. The accounting information are essential in achieving aforementioned because it should enable users to assess the capacity of the HEIs in order to enable the ability of its management to use the resources in an efficient manner. It is also important to emphasize that benefits from accounting information should exceed the costs of obtaining it.

One of the greatest challenges for HEIs nowadays is efficient management. Appropriate accounting information system and the usage of cost information is inevitable for successful management at HEIs. However, accounting systems of HEIs were for a very long period dominantly focused only on satisfying legal requirements regarding external financial reporting while management activity has been disconnected from the core activities (Pettersen and Solstad, 2007). However, as Johnson and Kaplan (1987,1) highlighted in their paper, today's management accounting information, driven by procedures and cycles of the organization's financial reporting, is too late, too aggregated and to distorted to be relevant for managers' planning and decision-making. In order to be able to respond to different challenges, HEIs started with introducing cost and managerial methods and instruments that are already well developed in the private sector. First of all, they started to implement costing methodologies in order to be more competitive for different research projects but also to be able to calculate the full cost of their services. Advantages of using different cost methodologies at HEIs are numerous, but the main advantages are in more efficient management, better decision making process that is based on reliable cost information, more accountable pricing and more systematic approach to projects.

Due to aforementioned, the main aim of this paper is to research the relevant literature regarding usage of accounting information for management purposes with the special focus on the development of cost accounting that is in the function of efficient management. Through the relevant literature review, authors have investigated aforementioned issues in the developed countries and have compared this with the accounting systems at Croatian HEIs.
After the introduction section of the paper, the authors analysed accounting information system and cost information usage at HEIs in developed European countries through the literature review. In third section, authors provide an overview of the situation in Croatia regarding usage of accounting information in the function of cost management. The last section consist of concluding remarks.

2. Accounting information system and cost information usage at HEIs in developed European countries – literature review

In order to organize accounting system at higher education institutions it arises a management problem about how to manage with resources such as human, finance, material etc. These days there is expanding number of students so it is very important to understand the cost structures that underpin provision in this sector but also to find out the potential for improved performance of HEIs (Thanassoulis et al., 2011).
Accounting at HEIs informs mainly on the implementation of revenues and expenditures budgets, the budgetary outturn, the property under management, the patrimonial results and the cost of the programs approved through the budget (Dragusin and Criveanu, 2014). Those authors also classify accounting information on financial accounting information and

management accounting information where the latter is primarily used by HEIs managers in order to assess and foresee cash flows and HEIs potentials.

Factors which have influence on management accounting practice in universities are *economic factors* (global economic fluctuations, increased competition, innovations in production technology and management methods, advanced information technology, diversity of funding sources); *requirements imposed from the top* (transnational regulation such as Bologna Process and European Union, transnational research projects, transition to financial reporting for commercial entities, national legislation on public sector finance and accounting, national institutions such as Ministry of Science and Higher Education, National Research Centre) and *normative pressures* (employing management accounting practitioners in higher education, designing costing or management accounting systems for universities by teams of accounting experts, training courses on management accounting principles and methods for university staff run by academic accountants, national cultures, university cultures), etc (Sobanska and Kalinowski, 2013).

In order to analyze the situation of the accounting information usage in cost management at HEIs there was scarce information about the costs and performance of HEIs in general. Financial reporting at HEIs is focused on external reports that are prescribed by the normative framework of every country and are dependable on the type of HEI (Jovanović and Dragija, 2018). Those authors investigated and compared financial reporting in higher education in Slovenia and Croatia, i.e. they focused on analyzing the usefulness of those management processes in those two countries. They concluded that in both countries, the majority of respondents assessed the financial reports as partly useful and the accounting function is perceptibly underestimated.

Many European countries have taken steps aiming at the introduction of management accounting methods in HEIs in order to strengthen the competitiveness of European Universities which should result in more effective allocation of funding from different sources (Sobanska and Kalinowski, 2013). So, HEIs are focused on cost reduction and accurate linking of costs because in that way they should accomplish their strategic goals. European University Association has carried out a variety of studies on the topic of full costing in European universities which should be helpful for better understanding of cost management at HEIs. Full costing is an important management tool of cost accounting/cost calculation, i.e. the ability to identify and calculate all the direct and indirect costs per activity and/or project, that need to be considered in order to accomplish these activities (EUA, 2013). Full costing is a powerful tool that helps in raising the quality of research and education. In general, recently there are substantial changes that require HEIs to become more accountable and also financially sustainable.

In 2011 authors Thanassoulis, Kortelainen, Johnes, and Johnes examined a Data Envelopment Analysis (DEA) at higher education institutions in *England* to assess their cost structure, efficiency and productivity. In their research, they used a 3- year panel data set of 121 HEIs in England in order to analyse the performance of institutions and evaluate the potential for efficiency improvements of HEIs. They used a Malmquist index approach to assess productivity change in the UK higher education and results revealed that for the majority of institutions productivity has actually decreased in the period from 2000/2001 – 2002/2003 in which UK government wanted to increase substantially the number of students attending the university. In Great Britain, the development of modern cost management system at HEIs has been supported by central government. Since 2000 all UK universities were under reform process in which they had to adopt TRAC (Transparent Approach to Costing). Under those methodology universities had to report their income and expenditure under teaching, research and other activities (EUA, 2013). TRAC is nationally developed ABC (activity-based costing) methodology which uses the allocation on survey of academic staff as cost drivers to allocate

all expenditures to relevant activities. This methodology showed that there was a continuing failure by universities to cover the full costs of their research which resulted in developing a ''low-cost culture'' under which volume of research activity and outputs were far more important that cost recovery.

Further, in 2005 the initiative for the full economic cost of research at project level was established. That project was managed by pilot universities themselves. They used their TRAC data in order to calculate their premises as well as indirect costs and after that they identified at the project level all direct and indirect costs of the research. Later in 2005/2006 this methodology widen to teaching not just research which ended in 2007 with a national framework for the costing of teaching based on the principles of TRAC methodology called TRACT(T) in order to provide information on the full economic cost of teaching in different disciplines. Each university has to present an annual statement of full cost, available for study by all other universities which provides detailed information about each of the basic activities, which enables comparison of these activities efficiency and mutual learning (Sobanska and Kalinowski, 2013).

The *Austrian* universities have to apply a full costing system according to Austrian legislation and in that sense they have to report full costs of teaching and research activities in order to secure funding. The University of Vienna was a pioneer in the implementation of the full costing model in 2006/2007 and carried out the integration of the financial accounting and management accounting systems (Sobanska and Kalinowski, 2013). They trace direct costs on a real-time basis but the allocation of indirect costs is done retrospectively in annual cycles. They use academic staff time as a main cost driver and allocated by activities such as teaching and research. In Austria a new funding model base on student members was designed (European Commission, 2014).

In *German* HEIs traditional approach primarily oriented to cash flow planning, called ''Kameralistik'' was used. Technische Universität Dresden was the first in implementing a full costing system (Sobanska, and Kalinowski, 2013). The purpose of that model was to ensure information of full cost of teaching modules and research projects. Due to fact that in Germany there are different German lands there is also a variation in proper shape of accounting system for HEIs. Full costing in Germany is primarily used to prove the full cost of externally funded research which leads to a more effective use of funds.

In *Poland* the increased decision-making autonomy of HEIs resulted in higher level of competition on the market but also limited funds from the state budget. Also, there is a high demand for financial as well as for non-financial information which lead to an implementation of changes in information system at HEIs. The purpose was to provide an adequate information base for efficient cost accounting. The result was that some universities, pioneered by the University of Lodz, wanted decentralization of management and increasing of the responsibility for costs, revenues and results at lower management levels such as faculties and libraries (Sobanska and Kalinowski, 2013). Only three universities (Silesian Technical University, Technical University Wroclaw, University of Warsaw) have so far started to implement full costing by developing suitable models (EUA, 2013).

After 2000 in *Sweden* was developed so called SUHF model after concerning how to finance indirect cost and in order to provide information support for local decisions on resource allocation (Sobanska and Kalinowski, 2013). That model is based on budgeted costs so corrections must be made retrospectively for cost deviations in order to calculate actual costs (EUA, 2013). Each HEI applies different time allocation methods but most of them are based on estimations not on actual time records. From 2009 Sweden started to apply full costing method which resulted with more information on indirect costs which led to better financial control but was also used for benchmarking between universities. Detailed cost calculation was

criticized because of additional costs of generated by providing this information. So, the result is an application of full costing based on arbitrarily determined rates of indirect costs.

Some Italian researchers investigated how accounting information is interpreted and used by key decisions makers and what cost accounting techniques are used at HEIs in *Italy*. They tried to find out whether the accounting information system of state universities is able to support decisions, in a context of rapid and constant transformation (Sordo et al., 2012). The result of their research was that Italian universities apply cost accounting techniques barely, i.e. there is no base for a rational decision process of users. Sordo et al. (2012) researching the topic of higher education institutions in Italy revealed that at the present the cost accounting system and cost accounting techniques of universities do not allow users to have all the information for rational decision-making.

The role of budgets and accounting information in HEIs, i.e. how accounting information is interpreted and used by key decision makers was investigated in *Norway* in 2007 (Pettersen and Solstad, 2007). They concluded after the empirical research that there is a loose coupling between the accounting information and the professional activities and the absence of interactive control processes in HEIs.

In *Portugal*, The University of Coimbra has installed an advanced cost management system based on full costing model with the elements of activity based costing (Sobanska and Kalinowski, 2013). From 2003/2004 five more faculties started to apply that system with special concentration on the monitoring and improvement of indirect cost drivers. The main challenge for the implementation was highly autonomous faculty structure.

3. Accounting information system and cost information usage at Croatian HEIs

According to Croatian agency for science and higher education, Croatian HEIs are dominantly public HEIs (105 out of 129 are public) and therefore are organized as budgetary user that apply the same normative framework for reporting purpose as all other budgetary users. Other HEIs are private, that are in minority, and are registered like either non-profit organization or companies. For the purpose of this paper the emphasize is put only on public HEIs.

Budget Act (Official Gazette No. 87/08, 136/12, 15/15) regulates accounting framework as well as external financial reporting of public HEIs as budgetary users. The structure and the content of external financial reports is prescribed by *Regulation on financial reporting in budgetary accounting* (Official Gazette, 2011; Official Gazette 2015). External financial reports that are prescribed by the aforementioned normative framework are*:*

- Balance sheet,
- The report on revenues and expenses, receipts and expenditures,
- The report on expenses according to functional classification,
- Report on changes in the value and volume of assets and liabilities,
- Report on liabilities,
- Notes to financial reports.

The content and the quality of accounting information that are presented in those reports are narrow because budgetary users are applying modified accrual basis (Official Gazette, 2015). In relation to the application of full accrual basis this modified accrual accounting model is marked with following adjustments:

- revenues are recognized when the cash is received (cash basis),
- financial assets are recognized at the time of purchase, therefore not at the time of actual consumption (there is no information about depreciation cost),
- the costs of procurement fixed asset with small value are not capitalized, because they are entirely presented as expense at the time of purchase,

- the costs of procurement fixed asset are not capitalized and they are not systematically apportioned on a time or functional basis as expenses during the period of useful life.
- increase in assets during the procurement fixed non-financial assets without the costs (capital received donations) are not recognized as revenue but directly increased the sources of ownership (public capital),
- spending of fixed non-financial assets during the administration estimated life is expressed as the expense of the sources of ownership (public capital) using proportional method of value adjustment.
- residual value of fixed non-financial asset that is sold or decommissioned is not reported as an expense that arises from the fact that the total expense was recognized at the time of purchase,
- the changes in value and volume of assets and liabilities are not reflected in the financial result but they directly reflect on the value of sources of ownership (public capital).

The fact is that public HEIs in Croatia are dominantly focused on satisfying legal requirements regarding external financial reports and are not focused on producing quality accounting information for efficient management and better decision making. However, accounting information from aforementioned external reports is synthesized and focused on past events. From external reports it is impossible to get analytical information about the total indirect and direct cost of certain programs, projects or activities of HEIs.. Moreover, it is not possible to calculate certain indicator and to measure performance. The information about the full cost of certain student or full cost of certain program does not exist. Furthermore, there are no elaborated and detailed records of the places of origin and methods of monitoring costs. Also, generally it is impossible to obtain information about future liabilities that are needed in the process of planning, but also for the analysis of cash flows. Therefore, we as authors argue that existing external reporting system of Croatian higher education institution cannot meet accounting information requirements of internal users, especially management. Recent surveys showed that cost and management accounting at public HEIs in Croatia is not sufficiently developed (Budimir, 2010; Dražić Lutilsky, 2011; Dragija, 2014, Dragija Kostić, Jovanović, Jurić, 2019). There were not any studies done about the usefulness of accounting information for management purposes at HEIs for Croatia. Only Jovanović and Dragija (2018) have researched the theoretical and empirical points of view on the usefulness of information from the financial reports for managers in public universities. They concluded that regardless of the accounting principle used, the accounting function in the case of HEIs is perceptibly underestimated, since it is mainly being used for administrative reporting purposes. However, the accounting information should be used as a powerful managerial tool, especially for internal business analytics, long-term planning, and future projections. Moreover, existing accounting information system, as it was mentioned, is determined by legislation for budgetary users and therefore is too general and not adjusted to the specific activities of HEIs.

Appropriate cost accounting methods developed as part of cost accounting and management accounting instruments are a prerequisite for effective and efficient management, whether in the entrepreneurial or public sector. The development of this part of cost accounting and management accounting should focus on areas that are driven by past events (defining costs that are tracked or should be tracked by higher education institutions, methods of monitoring cost, calculating and allocating costs to places and bearers, monitoring cost behavior and their assessment, etc). Also, cost and management accounting should be oriented on future events, such as planning and control, performance measurement and indicators.

Literature review and previous research of current experiences in our country, as well as in most other countries, has shown that the scope of application of cost accounting and management accounting in the budgetary sector and therefore at HEIs is very small. Full usage of cost and management instruments at HEIs assumes the application of full accrual basis. The most common reasons for insufficient usage of cost accounting and management accounting arise from the following facts (Vašiček, D, 1999, 252):

- some services are provided free of charge as part of the exercise of the essential functions of the State, some are partially charged and some fully,
- many of the costs of the services provided cannot be calculated reliably because the inputs to their generation are not recorded appropriately (eg depreciation),
- the criteria for evaluating and evaluating an activity, even at known costs, are unknown,
- programs, services, projects and activities are most often a matter of political and social decisions, so the goals of these decisions are more prioritized than the calculation of real costs,
- state budgets are institutionalized and defined according to the cash flow principle, so oversight of budgetary sources and spending of public money are often the primary or even sole interest of the legislator.

Notwithstanding all of the above, increasing constraints on available funds and rising debt, on the one hand, and increasing public needs and public criticism, on the other, are forcing budgetary management to reduce costs and increase the quality of services. This requirement cannot be met without the introduction of adequate cost accounting and management accounting. Determining the appropriate costs of the services at HEIs is in principle no more difficult than determining the costs of products or services in the private sector. Thus, all stakeholders, as well as management, are provided with information that is important for decision-making and show the effects of implementing previously adopted decisions. Of course, such information also enables the general public, but also the users of these services, to more fully view and evaluate the results of the provision of these services by higher education institutions.

Therefore, it should be presented to the management of higher education institutions that cost accounting, in addition to historical roles in determining the value of inventories or other assets in the financial accounting process, has a number of management functions. The IFAC study 12 (2000: 7-12) highlighted the key areas of application of instruments of cost accounting and management accounting, and are related to:

- process of planning and preparing operating and financial plans and budgets;
- process of cost control and cost reduction;
- process of price determination;
- process of the program evaluation and performance measurement;
- the diversity of choice of economic decisions.

Cost accounting methods, techniques, instruments, cost concepts and implementation processes that are scientifically and professionally developed and deeply embedded in the management process in the private sector can also be applied to a good extent at HEIs.

4. Conclusion

Different trends, conditions and assumptions that appear at HEIs suggest the usage of different cost and management instruments that will enhance the competitiveness of public higher education institutions in our higher education area. Management accounting information, driven by procedures and cycles of the organization's financial reporting, is too late, too aggregated and to distorted to be relevant for managers' planning and decision-making.

However, conducted literature review has shown that only developed countries have started with the implementation of full costing methodologies that become an essential tool of modern university management. Advantages of using different cost methodologies at HEIs are numerous, but the main advantages are in more efficient management, better decision making process that is based on reliable cost information, more accountable pricing and more systematic approach to projects.

A systematic and comprehensive accounting information system that has developed cost accounting except financial accounting, is a source of quality acccounting information for both external and internal users. Reporting is increasingly taking on the dimension of integrated reporting that, in a standardized manner, presents the business in terms of financial and non-financial measures.

On the European Level, the European University Association promotes the implementation of full costing method at HEIs (EUA, 2008; Esterman, Claeys-Kulik, 2013). The full costing refers to ability to identify and calculate all direct and indirect costs of an institution's activities including projects. The costs of activities are rising and hence the financial sustainability is the primary goal at HEIs. The first step towards this is to identify the real costs of their activities. Monitoring the total costs of own activities becomes very significant for HEIs if they want to be financially sustainable and that making decision is made based on timely and transparent information.

The fact is that HEIs in Croatia are still dominantly focused on satisfying legal requirement regarding external financial reporting. The literature review of recent surveys in Croatia has shown that cost and management accounting at public HEIs in Croatia is not sufficiently developed. However, increasing constraints on available financial resources and rising debt, on the one hand, and increasing public needs and public criticism, on the other, are forcing budgetary management to reduce costs and increase the quality of services. That is possible only by having quality accounting information that will be in the function of efficient cost management.

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ONLINE ADVERTISING: EFFECTIVENESS, INFORMATION CONTENT AND ETHICAL ISSUES

ABSTRACT

Online advertising is a social phenomenon that, due to its interdisciplinary nature, has attracted the attention of scholars and experts in various fields. As a result of the advances in the information and communication technologies, online advertising has quickly become a major form of advertising products and services. The present study aims to investigate the effectiveness of online advertising, information content of online advertisements, as well as related ethical issues. In order to answer the research questions, a survey was conducted among students attending Josip Juraj Strossmayer University in Osijek. A tailor-made questionnaire was used to collect the data. Statistical and other scientific methods were applied in the analysis to draw conclusions. The study found that students rarely pay attention to online advertisements and that in most of the respondents such ads do not stimulate interest in the product and service advertised or a desire to purchase them. Quite the contrary, online advertisements are predominantly perceived negatively. The results also suggest that there is almost no relationship between the socio-demographic characteristics of students and the ability of online advertising to influence them, but this finding should be taken with caution. The study further revealed that students generally agree that online advertisements often make false or deceptive claims about products and services, do not provide sufficient information to make the right and rational decision, contain claims that cannot be verified and proven and, consequently, do not fulfil their informative function. In addition, the research highlighted a number of issues associated with the failure to adhere to ethical standards in online advertising. Overall, the study provides a better understanding of how the student population in Croatia perceive online advertising and adds to the existing body of knowledge in the field of marketing, information and communication sciences, and ethics.

Key words: *online advertising, effectiveness, information content, ethical issues, students' perception.*

1. Introduction

Information and communication technologies have fundamentally changed the world of advertising. Advertisers and consumers can now establish relationships in ways that were inconceivable until recently. In the digital era, the possibilities of reaching a wide audience are virtually boundless. Moreover, advertisers can personalise their messages, thus further attracting the attention of consumers. Modern technologies also allow advertisements to be interactive and dynamic. One of the advantages of online advertising is its cost-effectiveness. It is therefore not surprising that it has quickly become the most preferred type of advertising.

Several terms, often synonymous, are used to describe advertising on the Internet, such as online advertising, Internet advertising, and web advertising (Yang, 2006; Lim, Yap, & Lau, 2010; Aktan, Aydogan, & Aysuna, 2016). For the purpose of this paper, the term online advertising is used. Song et al. (2011) describe online advertising as any form of promotion that uses the Internet to deliver marketing messages and attract customers. Its effectiveness has become the subject of great interest among theorists and practitioners alike. According to Kim et al. (2012), online advertising is a key component of marketing strategies developed to increase sales on the Internet. For Bakshi and Gupta (2013), online advertising is a type of mass communication which is based on traditional forms of advertising and communication strategies developed in accordance with contemporary technical requirements and characteristics of the media. According to these authors, online advertising involves delivering advertisements to Internet users via websites, e-mail and smartphones.

Ružić, Biloš, and Turkalj (2014) point out that the Internet has spawned a large number of different forms of advertising, and as the technology advances, new forms are constantly emerging and evolving. Goldfarb (2014) states that online advertising can be categorised into three general groups: search, classified, and display advertising. Search advertising is linked to search results on search engines. This type of advertising involves displaying advertisements based on search terms. Classified advertising refers to online advertisements that are displayed on a website, similarly to small ads placed in a newspaper. This category can often include job advertisements and online dating sites. Display advertising is considered a major revenue generator. It includes advertisements that contain text, image, sound and/or video, and can take many forms. According to Nagadevara (2019), the most popular type of display advertisements are banners, which can be static or animated. Interstitial banners are advertisements that appear before the desired website opens. A pop-up advertisement opens in a new window in front of the active website, while a pop-under ad appears in the background of the website. These forms of online advertising are mainly perceived as outdated. The ads that appear on the map when it is viewed are called map advertisements. Floating advertisements appear in front of the content of an active webpage and generally have a close button or disappear after a short while. Wallpaper advertisements appear in the empty space around the central content of a webpage. In addition to these types of online advertising, there are other marketing channels such as e-mail, digital video advertising, mobile advertising, social network advertising, sponsorship, and affiliate advertising (Viglia, 2014; Acatrinei, 2015; Anderl, Schumann, & Kunz; 2016).

Online advertising connects several disciplines and is affected by various factors. Therefore, a number of variables need to be considered when researching online advertising. Understanding consumers' perceptions and attitudes is key to successful online advertising. With this in mind, this paper explores the effectiveness of online advertising from the perspective of the students of Josip Juraj Strossmayer University in Osijek, as typical representatives of the digital generation. However, online advertising should not be solely focused on creating a desire to buy and influencing consumer behaviour in order to maximise profit at all costs. On the contrary, it must be socially responsible, informative, truthful, and fair. In this context, in addition to the effectiveness of online advertising, the paper also explores students' views on

information contained in online advertisements, as well as ethical issues that arise in marketing practice as a result of the use of information and communication technologies.

2. Related studies

The emergence and development of each of the advertising media is accompanied by efforts to find the most effective ways to convey the promotional content to the target audience. The effectiveness of advertising is a topic that has always been a focus of interest of both theorists and practitioners. The increasing importance of the Internet as an advertising medium is reflected in a growing body of research on the effectiveness of online advertising. However, many questions remain unclear. Lim, Yap, and Lau (2011) conducted a survey among office employees and university teachers to assess the effectiveness of online advertising in terms of its impact on the purchasing decision. They concluded that consumers are receptive to online advertising and that they generally have a positive attitude towards it. Moreover, the respondents are actively searching for information about products and services in online advertisements. In their study, Alabi, Oketunde, and Owolabi (2012) examined the perceptions and attitudes of undergraduate students towards online advertisements. The survey found that the vast majority of students notice online advertisements, just over half of them pay attention to them, while nearly two-thirds have a negative opinion about them. A study conducted by Senthil, Prabhu, and Bhuvaneswari (2013) investigated the Internet users' perceptions about advertising on online shopping and social networking sites. The main finding of this study is that consumers, while perceiving online advertising as more effective than traditional methods, have doubts and reservations about advertisements appearing on these types of sites and tend to avoid them. Srivastava, Srivastava, and Rai (2014) examined attitudes and perceptions towards online advertising among students and young professionals. The results of their study show that the respondents find online advertisements appealing and that they prefer interactive ads. At the same time, online advertisements were perceived as annoying. The respondents agreed that they are a waste of time and that there should be a possibility to block them. Most respondents in a survey conducted by Singh and Singh (2016) agreed that online advertisements are ubiquitous and that they like to click through them. The authors also concluded that the Internet plays a more important role in the purchasing decision process than other media, such as television and newspapers. Farooqi and Ahmad (2018) found that university students generally find online advertising useful and economic, but dislike it, which may be due to their greater trust in advertisements in traditional media.

Advertisements should be amusing and must attract attention. However, an advertisement must also be informative and must not be misleading. Thus, online advertisements should contain verifiable statements, and the consumer must have sufficient information at their disposal to make the right and rational decisions. Based on available sources, it can be concluded that the issue of information content of online advertisements has not been adequately investigated to date. Wang and Sun (2010) explored the differences in attitudes towards Internet advertising between US and Romanian Internet users. Their study found that Internet users from both countries only partially agreed that online advertising is a good source of information about products and services, and that such advertising provides relevant and timely information, while they generally disagreed with the statement that it is reliable and believable. The mentioned features of online advertising were rated higher by Romanian respondents. The results of the study by Zha, Li, and Yan (2015) showed that perceived informativeness, entertainment, and credibility contribute to shaping attitudes towards online advertising and influence the use of such sources to obtain information. In terms of perceived informativeness, this implies that online advertisers need to provide more specific, definite and tangible facts to help consumers evaluate and compare products. More than half of respondents in a survey conducted by Franco and Nancy (2017) said that they are highly influenced by online advertisements. In addition, they agreed that online advertisements are informative. Paras

(2018) surveyed a sample of online consumers and advertisers. They were mainly neutral in their assessment of the reliability and trustworthiness of online advertisements. Slightly higher levels of agreement were recorded for the statements that online advertisements are a valuable source of information about products and services, and that such ads provide information helpful in purchase decision making. Based on the above, the author nevertheless concluded that online advertising is informative.

Ethical issues are inseparable from online advertising. Advertisers are required to adhere to the ethical standards, which are prescribed by the code in regulated market economies. However, advertisers often resort to ethically questionable practices to maximise profit. Due to the nature of the Internet, many advertisements cannot be monitored, which is why the issue of ethics in online advertising is becoming an extremely important topic. Yaakop and Hemsley-Brown (2013) examined the attitudes of tourism service users towards online advertising, focusing on the belief factors. The results of the analysis showed that the respondents generally agreed that online advertisements should be more realistic, that there are too many exaggerations in Internet advertising, that they encourage people to buy things they do not need, and that they are generally misleading. A study by Taghipoorreyneh and De Run (2016) revealed that respondents with Internet experience tend to agree that online advertising is generally truthful. However, an even higher percentage of them agreed that they were frequently misled by advertising. Overall, their attitude towards online advertising was positive. Dunu et al. (2016) made their conclusions based on a survey of a very small sample. The respondents in this study mainly agreed that online advertising should be decent, honest, truthful, and respectful to the culture. The respondents also generally agreed that advertisements should be prepared with a sense of social responsibility. In addition, the advertisements should be in the interest of the consumer, and inappropriate content should be avoided. A survey of Internet users conducted by Reena and Shareena (2019) found that they perceive online advertising as a good source of information about products and services. Misleading information was found to be the main problem of internet advertising. Based on the answers of the respondents to the survey aimed at optimising the impact of advertising on social networks, Ferraresi (2019) concluded that they want less stereotyped and vulgar advertising, as well as less content associated with sexuality, and expect advertising to be truthful.

3. Study objectives and research questions

Information and communication technologies have dramatically changed consumer behaviour. Today, consumers are active market participants. They use technologies to search for information about products and services and to purchase them. In such circumstances, it is hard to imagine that companies who ignore modern advertising channels can be competitive and able to thrive. This is why various aspects of online advertising require careful consideration.

The effectiveness of online advertising to influence consumer behaviour is of great interest to marketers. Successful advertising depends on many factors. An advertisement should attract the attention of consumers and stimulate the desire to buy. To achieve this, advertisers need to make their advertisements informative and adhere to ethical principles and codes. Against this background, the aim of this study is to investigate the effectiveness of online advertising, information content of online advertisement, as well as related ethical issues. Four research questions were formulated to guide this study:

- How effective is online advertising from the students' perspective, i.e. to what extent do advertisements on the Internet attract their attention and do they have a positive or negative effect on students?

- What is the relationship between the socio-demographic characteristics of students (gender, field of study, student status, year of study, and place of residence) and the ability of online advertising to influence them?
- What are students' opinions about information contained in online advertisements in terms of their objectivity, verifiability, and usefulness in making a purchasing decision?
- To what extent do advertisers adhere to ethical standards and do students consider online advertising overly intrusive, disturbing, manipulative, inappropriate for the younger population, socially irresponsible, and offensive to some groups?

Many researchers agree that students, as a generation that has grown up with digital technology and is comfortable with its use, represent an important consumer group (Valentine & Powers, 2013; Aktan, Aydogan, & Aysuna, 2016; Ajaero, Uzodinma, Nwachukwu, & Odikpo, 2017; Khalid, Jamal, Shamsi, & Zafar, 2017; Sulaiman, Yusr, & Ismail, 2017). Therefore, students are increasingly attracting the attention of advertisers. In the light of this fact, the present research focused on students. The conclusions of the study are a valuable source of information for academics and professionals in the fields of marketing, information and communication sciences, and ethics. The results contribute to a better understanding of how students perceive online advertising and what they expect from it.

4. Sample and methods

For the purpose of this study, a questionnaire was designed consisting of several sections. The data were collected within the Centre for Digital Ethics, Faculty of Humanities and Social Sciences in Osijek, using an online survey created in Google Forms. The target group were students of Josip Juraj Strossmayer University in Osijek enrolled in undergraduate, graduate and integrated study programmes. In the first phase, 458 respondents filled in the questionnaire and their answers were analysed. The sample comprised 185 (40.4%) male and 273 (59.6%) female students. Their ages ranged from 18 to 47 years. The average age was 22 with a standard deviation of 2.93 years. Of all participants, 34 (7.4%) were from natural science fields, 117 (25.5%) from engineering, 32 (7%) from biomedicine and health care, 52 (11.4%) from biotechnical sciences, 151 (33%) from social sciences, 51 (11.1%) from humanities, 11 (2.4%) from the artistic field, and 10 (2.2%) from interdisciplinary fields of science. The sample included 408 (89.1%) full-time students and 50 (10.9%) part-time students. Among the respondents, 262 (57.2%) were undergraduate students or first-, second- or third-year students of integrated study programmes, while 196 (42.8%) were graduate students or fourth-, fifth-, or sixth-year students of integrated studies. There were 286 (62.5%) respondents from the urban area and 172 (37.6%) participants from the rural area.

Frequency analysis was performed and descriptive statistics were calculated to describe the sample and responses to survey items. The chi-square test and Fisher's exact test were used to examine the relationship between characteristics of students and the effectiveness of online advertising. Statistical significance was set at $p < 0.05$.

5. Results

In order to determine their opinions on the effectiveness of online advertising, the respondents were asked to indicate on a five-point scale (1 = never, 2 = rarely, 3 = sometimes, 4 = often, 5 = always) the extent to which online advertisements attract their attention and whether they have a positive or negative effect on them. The distributions of responses are shown in Table 1.

Table 1: Frequencies and percentages of students' responses regarding the effectiveness of online advertising

Item	Never	Rarely	Sometimes	Often	Always
How often do you pay attention to online advertisements?	157 (34.3%)	179 (39.1%)	91 (19.9%)	30 (6.6%)	1 (0.2%)
How often do online advertisements have a positive effect on you?	231 (50.4%)	149 (32.5%)	68 (14.8%)	7 (1.5%)	3 (0.7%)
How often do online advertisements have a negative effect on you?	36 (7.9%)	57 (12.4%)	92 (20.1%)	155 (33.8%)	118 (25.8%)

Source: authors

Most respondents indicated that they rarely pay attention to online advertisements, while more than a third said that they never watch them. Only one in five participants stated that online advertisements attract their attention sometimes, while the number of those who often or always choose to view such ads is almost negligible. More than half of the students surveyed indicated that online advertisements have never had a positive effect on them, while less than a third said this happens rarely. Only about 15% of the respondents indicated that online advertising sometimes motivates them to search for additional information about the advertised product and service, or to purchase them. Very few students reported that online advertising has a positive effect on them often or always. The majority indicated that online advertising tends to have a negative effect on them. Nearly 60% of the respondents said that online advertising has a negative effect on them, sometimes even causing an aversion to the advertised product and service. The number of respondents who stated that online advertising has never had a negative effect on them was the smallest.

Table 2 provides summary statistics of students' responses regarding the effectiveness of online advertising.

Table 2: Summary statistics of students' responses regarding the effectiveness of online advertising

Item	Mean	Median	Standard deviation	Interquartile range
How often do you pay attention to online advertisements?	1.99	2.00	0.91	2.00
How often do online advertisements have a positive effect on you?	1.69	1.00	0.83	1.00
How often do online advertisements have a negative effect on you?	3.57	4.00	1.22	2.00

Source: authors

The mean and median suggest that, overall, respondents rarely pay attention to online advertisements. According to the results, online advertisements positively affect students' purchasing behaviour to an even lesser extent. Both, standard deviation and interquartile range show that students' responses are less spread on the scale for this item than for the other statements. Measures of central tendency also indicate that online advertisements quite often have a negative effect on the respondents.

Table 3: Contingency tables analysis

Characteristics		How often do you pay attention to online advertisements?		How often do online advertisements have a positive effect on you?		How often do online advertisements have a negative effect on you?	
		Never	At least rarely	Never	At least rarely	Never	At least rarely
Gender	Male	72 (38.9%)	113 (61.1%)	103 (55.7%)	82 (44.3%)	15 (8.1%)	170 (91.9%)
	Female	85 (31.1%)	188 (68.9%)	128 (46.9%)	145 (53.1%)	21 (7.7%)	252 (92.3%)
	Chi-square test	$\chi^2=2.965, p=0.085$		$\chi^2=3.408, p=0.065$		$\chi^2=0.026, p=0.871$	
Study field	Natural sciences	16 (47.1%)	18 (52.9%)	23 (67.6%)	11 (32.4%)	2 (5.9%)	32 (94.1%)
	Engineering	41 (35.0%)	76 (65.0%)	67 (57.3%)	50 (42.7%)	10 (8.5%)	107 (91.5%)
	Biomedicine and health	10 (31.3%)	22 (68.8%)	10 (31.3%)	22 (68.8%)	4 (12.5%)	28 (87.5%)
	Biotechnical sciences	20 (38.5%)	32 (61.5%)	28 (53.8%)	24 (46.2%)	2 (3.8%)	50 (96.2%)
	Social sciences	37 (24.5%)	114 (75.5%)	61 (40.4%)	90 (59.6%)	10 (6.6%)	141 (93.4%)
	Humanities	24 (47.1%)	27 (52.9%)	33 (64.7%)	18 (35.3%)	5 (9.8%)	46 (90.2%)
	Artistic field	5 (45.5%)	6 (54.5%)	3 (27.3%)	8 (72.7%)	1 (9.1%)	10 (90.9%)
	Interdisciplinary fields	4 (40.0%)	6 (60.0%)	6 (60.0%)	4 (40.0%)	2 (20.0%)	8 (80.0%)
	Chi-square test	$\chi^2=13.887, p=0.053$		$\chi^2=24.134, p=0.001*$		$\chi^2=5.614, p=0.53**$	
Student status	Full-time	146 (35.8%)	262 (64.2%)	212 (52.0%)	196 (48.0%)	34 (8.3%)	374 (91.7%)
	Part-time	11 (22.0%)	39 (78.0%)	19 (38.0%)	31 (62.0%)	2 (4.0%)	48 (96.0%)
	Chi-square test	$\chi^2=3.757, p=0.053$		$\chi^2=3.473, p=0.062$		$\chi^2=0.407, p=0.22**$	
Year of study	1 – 3	99 (37.8%)	163 (62.2%)	137 (52.3%)	125 (47.7%)	21 (8.0%)	241 (92.0%)
	4 – 6	58 (29.6%)	138 (70.4%)	94 (48.0%)	102 (52.0%)	15 (7.7%)	181 (92.3%)
	Chi-square test	$\chi^2=3.342, p=0.068$		$\chi^2=0,841. p=0.359$		$\chi^2=0.02, p=0.887$	
Place of residence	Urban	97 (33.9%)	189 (66.1%)	150 (52.4%)	136 (47.6%)	24 (8.4%)	262 (91.6%)
	Rural	60 (34.9%)	112 (65.1%)	81 (47.1%)	91 (52.9%)	12 (7.0%)	160 (93.0%)
	Chi-square test	$\chi^2=0.045, p=0.833$		$\chi^2=1.232, p=0.267$		$\chi^2=0.297, p=0.586$	

* Statistically significant at $p<0.05$

** Fisher's exact test

Source: authors

The chi-square test was used to examine the relationship between the socio-demographic characteristics (gender, field of study, students status, year of study, and place of residence) and the frequency of paying attention to online advertisements, and the positive and negative effects of such ads on students. Fisher's exact test was used in two cases where the assumptions of the chi-square test were violated. For the purpose of analysis, the responses rarely, sometimes, often and always were grouped into one category. Thus, a distinction was made between the students surveyed who never pay attention to online advertisements and who are not influenced, either positively or negatively, by online advertising, and those who stated that this occurs at least rarely. The intention was to separate students who are not affected by online advertisements at all from other students and to examine the relationship between these two groups and students' characteristics. In the sample, there were 301 (65.7%) respondents who at least rarely pay attention to online advertisements, 227 (49.6%) respondents who are at least rarely impacted positively by online ads, and 422 (92.1%) respondents who are at least rarely impacted negatively by online ads. The results of the analysis of contingency tables are listed in Table 3.

There is a higher percentage of men than women who reported that they never pay attention to online advertisements and that such ads have neither positive nor negative impact on them. The percentage of respondents who never watch online advertisements is the highest among students in the natural sciences and humanities, and the lowest among students in the social sciences. Participants who are never positively affected by online advertisements are most represented among students in the natural sciences, and least represented among students studying the arts. The highest percentage of respondents who have indicated that online advertising never has a negative impact on them is among students in the interdisciplinary fields of sciences. This percentage is the lowest among students of biotechnical sciences. The respondents who reported that they never pay attention to online advertisements and that such ads have neither positive nor negative impact on them are more represented in the group of full-time students and in the group of first-, second, and third-year students. The percentage of respondents who never pay attention to online advertisements is slightly higher in the group of students who indicated that they live in the rural area. The percentage of students who are never, either positively or negatively, affected by online advertisements is higher in the group of students who reported living in an urban area.

Despite the differences observed, according to the chi-square test, there is a significant relationship only between the study field and a positive effect of online advertising. Based on this, it can be concluded that there is almost no relationship between the socio-demographic characteristics of students, i.e. their gender, field of study, student status, year of study, and place of residence, and not paying or at least rarely paying attention to online advertisements, and no or at least rare positive or negative effect of online advertising.

In the next section of the questionnaire, the respondents were asked to indicate, on a five-point scale (1 = strongly disagree, 2 = disagree, 3 = neither disagree nor agree, 4 = agree, 5 = strongly agree), the level of their agreement with the statements about information contained in online advertisements and ethical issues related to online advertising. Table 4 shows the distribution of responses to these items.

The statements were formulated to reflect the negative aspects of online advertising. The majority of respondents completely agreed with most of the statements. There are only three statements with which most students neither agreed nor disagreed (online advertisements are often disturbing and shocking, online advertisements are often offensive to some members of the community, and online advertising promotes negative values in society). More than half of the survey participants agreed or completely agreed with all of the statements, except for the above three, suggesting that, overall, students perceive online advertising quite negatively. This

is supported by the fact that, with the exception of one statement, the percentages of respondents who completely disagreed with all the other statements were the smallest.

Table 4: Frequencies and percentages of students' responses regarding information content of online advertisements and ethical issues

Item	Completely disagree	Disagree	Neither disagree nor agree	Agree	Completely agree
Online advertisements often make false or deceptive claims about products and services	9 (2.0%)	23 (5.0%)	87 (19.0%)	156 (34.1%)	183 (40.0%)
Online advertisements often do not provide sufficient information for making the right and rational decision	7 (1.5%)	19 (4.1%)	107 (23.4%)	152 (33.2%)	173 (37.8%)
Online advertisements often contain claims that cannot be verified and proven	3 (0.7%)	28 (6.1%)	123 (26.9%)	145 (31.7%)	159 (34.7%)
Online advertising generally does not fulfil its informative function	7 (1.5%)	24 (5.2%)	99 (21.6%)	127 (27.7%)	201 (43.9%)
Online advertisements are often intrusive and aggressive	6 (1.3%)	21 (4.6%)	64 (14.0%)	127 (27.7%)	240 (52.4%)
Online advertisements are often disturbing and shocking	25 (5.5%)	82 (17.9%)	144 (31.4%)	96 (21.0%)	111 (24.2%)
Online advertisements are often offensive to some members of the community	65 (14.2%)	112 (24.5%)	159 (34.7%)	64 (14.0%)	58 (12.7%)
Online advertisers often misuse consumer recklessness, carelessness and ignorance	8 (1.7%)	14 (3.1%)	64 (14.0%)	161 (35.2%)	211 (46.1%)
Online advertisements often encourage people to buy products and services they do not need	8 (1.7%)	18 (3.9%)	62 (13.5%)	158 (34.5%)	212 (46.3%)
Online advertisements often target children, who can be easily manipulated	8 (1.7%)	35 (7.6%)	86 (18.8%)	144 (31.4%)	185 (40.4%)
Online advertisements are often inappropriate for the younger population	21 (4.6%)	71 (15.5%)	124 (27.1%)	117 (25.5%)	125 (27.3%)
Too many online advertisements promote products that are inefficient or harmful to human health	10 (2.2%)	25 (5.5%)	91 (19.9%)	138 (30.1%)	194 (42.4%)
Online advertisements are often stereotyped	21 (4.6%)	34 (7.4%)	133 (29.0%)	128 (27.9%)	142 (31.0%)
Online advertisements often contain tracking mechanisms, thus violating privacy rights	10 (2.2%)	17 (3.7%)	100 (21.8%)	127 (27.7%)	204 (44.5%)
Online advertising promotes consumerism	6 (1.3%)	16 (3.5%)	107 (23.4%)	127 (27.7%)	202 (44.1%)
Online advertising promotes negative values in society	17 (3.7%)	50 (10.9%)	181 (39.5%)	106 (23.1%)	104 (22.7%)
Online advertisers often ignore ethical principles and prioritise profit over everything else	5 (1.1%)	20 (4.4%)	112 (24.5%)	131 (28.6%)	190 (41.5%)

Source: authors

Table 5 provides summary statistics of students' responses regarding the information content of online advertisements and ethical issues related to online advertising.

Table 5: Summary statistics of students' responses regarding the information content of online advertisements and ethical issues

Item	Mean	Median	Standard deviation	Interquartile range
Online advertisements often make false or deceptive claims about products and services	4.05	4.00	0.98	2.00
Online advertisements often do not provide sufficient information for making the right and rational decision	4.02	4.00	0.96	2.00
Online advertisements often contain claims that cannot be verified and proven	3.94	4.00	0.96	2.00
Online advertising generally does not fulfil its informative function	4.07	4.00	1.00	2.00
Online advertisements are often intrusive and aggressive	4.25	5.00	0.95	1.00
Online advertisements are often disturbing and shocking	3.41	3.00	1.19	1.00
Online advertisements are often offensive to some members of the community	2.86	3.00	1.20	2.00
Online advertisers often misuse consumer recklessness, carelessness and ignorance	4.21	4.00	0.92	1.00
Online advertisements often encourage people to buy products and services they do not need	4.20	4.00	0.94	1.00
Online advertisements often target children, who can be easily manipulated	4.01	4.00	1.03	2.00
Online advertisements are often inappropriate for the younger population	3.55	4.00	1.18	2.00
Too many online advertisements promote products that are inefficient or harmful to human health	4.05	4.00	1.02	2.00
Online advertisements are often stereotyped	3.73	4.00	1.11	2.00
Online advertisements often contain tracking mechanisms, thus violating privacy rights	4.09	4.00	1.00	2.00
Online advertising promotes consumerism	4.10	4.00	0.96	2.00
Online advertising promotes negative values in society	3.50	3.00	1.07	1.00
Online advertisers often ignore ethical principles and prioritise profit over everything else	4.05	4.00	0.97	2.00

Source: authors

Taking into account that 3 represents a neutral attitude, the means and medians indicate that, in general, students are not satisfied with the information contained in online advertisements. In particular, they find that online advertisements often make false or deceptive claims about products and services and do not provide sufficient information for making the right and rational decision. This, to somewhat lesser extent, is also true for the statement that online advertisements often contain claims that cannot be verified and proven. Hence, students tend to agree that online advertising generally does not fulfil its informative function.

Both mean and median indicate that the respondents expressed the highest level of agreement with the statement that online advertisements are often intrusive and aggressive. To a somewhat lesser extent, they agreed that online advertisers often misuse consumer recklessness, carelessness and ignorance, and that online advertisements often encourage people to buy products and services they do not need. There are five more items with the mean value greater than 4 (advertisements often target children, who can be easily manipulated, too many online advertisements promote products that are inefficient or harmful to human health, online advertisements often contain tracking mechanisms, thus violating privacy rights, online advertising promotes consumerism, and online advertisers often ignore ethical principles and prioritise profit over everything else). Therefore, students agree that online advertisers do not adhere to the code of ethics. Respondents expressed a lower level of agreement with the statements that online advertisements are often disturbing and shocking, inappropriate for younger people and stereotyped, and that online advertising promotes negative values in society. The means of these items range from 3.41 to 3.73. According to the mean, the respondents disagreed only with the statement that online advertisements are often offensive to some members of the community, such as members of minority groups. It should be noted that for this item the median value is 3, which indicates a neutral opinion rather than students' disagreement with the statement. All this findings suggest that students are aware of concerns relating to ethical issues in online advertising.

6. Conclusion

Online advertising is growing rapidly driven by the advances in information and communication technologies. From today's perspective, the first online advertisements were very simple and not particularly attractive. Initially, they appeared in the form of small banners. At the time, only the most enthusiastic believers could anticipate that twenty years later, online advertising would become the dominant way of conveying marketing messages. Today, more money is spent on online advertising than on all other forms of advertising combined. The reason for this is very simple and lies in the fact that consumers use digital channels more than others. This is especially true of the younger generations, who rely on the Internet as the primary source of information, entertainment, and communication. Hence, to be successful, advertisers must understand how consumers perceive online advertisements, what they think of them, and how such ads affect them.

Online advertising has raised a number of questions, which is understandable given its interdisciplinary nature. It is therefore not surprising that online advertising has attracted a great deal of interest among scholars and experts in various fields. In this context, the paper explores the effectiveness of online advertising, information content of online advertisements, as well as related ethical issues. In order to answer the research questions, a survey was carried out among students of Josip Juraj Strossmayer University in Osijek. The choice of students as the target population is justified and logical given that they belong to a generation that is highly dependent on modern technologies. In addition, as academics and consumers, students are fully competent to evaluate various aspects of online advertising. Nevertheless, it should be kept in mind that Croatian students are relatively homogeneous in terms of important demographics, while the population of Internet users is heterogeneous. Although students are of particular interest to advertisers, they do not represent all Internet users, and thus the results of this study cannot be generalised, except to similar populations. To overcome this limitation, future research could expand the sample to include a more diverse range of consumers. A self-reported type of data can also be considered as one of the study limitations, as well as the methods applied to draw conclusions. In future research, it is planned to employ more advanced statistical procedures to provide a deeper insight into the issues explored. It should also be mentioned that some questionnaire items were not discussed in this paper due to limited space. These items will be included in future analysis.

Several important and interesting findings have emerged from this study. It was expected that students, in an environment where they are constantly exposed to various online advertisements, are not always prone to interact with them. However, the results of the research show that students not only rarely pay attention to online advertisements, but also that such advertisements do not stimulate their interest in the product and service and a desire to purchase them. Moreover, online advertisements tend to have a negative effect on the respondents. Thus, advertisers need to carefully consider whether an aggressive advertising campaign would yield positive outcomes or have the opposite effect and cause consumers to develop aversion to the advertised product and service. The study further revealed that there is no relationship between the gender, field of study, student status, year of study, and place of residence of the students and not paying or at least rarely paying attention to online advertisements, and no or at least rare positive or negative effect of online advertising. This implies that online advertising has the similar impact on students regardless of their socio-demographic characteristics. However, this conclusion should be taken with caution and further analyses are needed to confirm this. The results of the survey also indicate that students are not satisfied with the content of online advertisements in terms of their objectivity, verifiability and usefulness in making a purchasing decision. They also believe that online advertising does not fulfil its informative function. Finally, the study has identified a number of issues associated with the failure to adhere to ethical standards in online advertising. Among other things, students are generally inclined to agree that online advertising is often too intrusive, disturbing, manipulative, inappropriate for the younger population, and socially irresponsible. The practical implications of these findings are that advertisers should provide consumers with all the information they need, and adhere to ethical principles. Advertisers must understand the importance of informativeness and ethical issues as essential determinants of advertising, without which their goals cannot be achieved. Online advertising, as a social phenomenon, should be continually investigated. This study contributes to a better understanding of the needs and expectations of the digital generation of consumers and expands the knowledge on online advertising in the fields of marketing, information and communication sciences, and ethics.

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A scientific paper

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INDICATORS FOR MEASURING TOURISM IMPACTS ON LOCAL LEVEL: THEORY AND PRACTICE

ABSTRACT

Given the significant growth in tourism arrivals and overnights worldwide, as well as the rise of overtourism, it is important to analyse and discuss which indicators can be used to continuously monitor the social, economic and environmental impacts of tourism in host destinations. The aim of this paper is to provide a detailed overview of the different systems of indicators focused on measuring various tourism impacts on the local level (including measuring the quality of life of local residents as an important segment), and to develop informed discussion on the benefits and challenges of their potential use in Croatian local self-government units. The indicators are analysed using secondary data, while critical assessment and discussion on the application of the indicators in Croatian practice is the result of desk research on the legal situation and practical scope and activities of Croatian local self-government units and local tourism boards. The results of the paper imply a variety of theoretical approaches in forming indicators for measuring tourism impacts, but also point to the significant lack of a systematic approach to measuring positive and negative tourism impacts on the local level in Croatia, an important European tourist destination.

Key words: *tourism, indicators, local level, destination, Croatia.*

1. Introduction

Nowadays tourist destinations are facing multiple social, economic, cultural and environmental challenges. Projections made by the World Tourism Organisation anticipate a growth of up to 1.8 billion international arrivals worldwide by 2030 and this increase in the number of tourists could have significant direct and indirect effects on host destinations. "Visitor pressure" and "overtourism" have become hot topics of discussion in several popular city tourist destinations (Milano, 2017), and negative tourism impacts (especially environmental ones in terms of the climate change debate) are more than ever in the focus of the efforts of destination management as well as researchers. The exponential increase in the availability of information due to the Internet, together with drastically expanded transport and accommodation offerings caused by sharing economy models, have helped to increase the popularity and the tourism offerings of many destinations practically overnight. In order to make informed decisions on the strategic management of destinations and decide "how

much is too much", and what segments should be improved in order to develop more sustainable tourism, destination managers need to measure, monitor and analyse various tourism-related indicators. Indicators are measures used to gain forehand information on the existence of certain issues that need urgent destination management attention. In general, the main purpose of the indicators measurement and monitoring is to anticipate and prevent undesirable (or unsustainable) situations at destinations (UNWTO, 2004). However, indicators don't have to be used only for monitoring "crisis" situations, its usage is also very effective in achieving higher quality standards of destination tourism products/experiences as well as in higher local community quality of life. Indicators should be carefully designed to capture the complex, positive and negative economic, socio-cultural and environmental impacts that tourism has on destinations (Soldic Frleta & Đurkin Badurina, 2019).

The aim of this paper is to provide an overview of the most important systems of tourism indicators and discuss the challenges in their implementation on the example of Croatian destinations. Special attention will be given to the discussion about defining the "local level"/ "destination level" as the area which the measurement of tourism indicators should encompass in order to provide an efficient information base for accurate current state analysis and related decision-making.

2. Overview of existing systems of indicators for measuring (sustainable) tourism

To ensure informed decisions concerning tourism development at all levels, different global organisations have tried to develop a system of indicators for measuring tourism development and related impacts. Some of those approaches were more oriented on national quantitative data aggregated from different statistics (OECD approach), while other approaches put emphasis on conducting surveys of residents, tourists and/or tourism enterprises in order to collect valuable qualitative data from the field (e.g. UNWTO, ETIS). Also, while the OECD approach, focuses on quantification of competitiveness of tourism on a country level (national level), UNWTO indicators as well as ETIS are more oriented on sustainability and measuring the extent to which tourism offer in particular destination is economically, socially and environmentally sustainable. This is in line with global efforts in development of sustainable tourism, defined as "a tourism that should (UNWTO, 2004a):
   1) Make optimal use of environmental resources that constitute a key element in tourism development, maintaining essential ecological processes and helping to conserve natural heritage and biodiversity.
   2) Respect the socio-cultural authenticity of host communities, conserve their built and living cultural heritage and traditional values, and contribute to inter-cultural understanding and tolerance.
   3) Ensure viable, long-term economic operations, providing socio-economic benefits to all stakeholders that are fairly distributed, including stable employment and income-earning opportunities and social services to host communities, and contributing to poverty alleviation."
The overview of the most important systems of indicators for measuring tourism is important for understanding the process of establishing efficient measurement system in Croatia and to critically asses the challenges for Croatian practitioners in its implementation.

2.1. OECD approach to indicators for measuring competitiveness in tourism

With main aim to contribute to the understanding of country competitiveness in tourism, the Tourism Committee of the Organisation for Economic Co-operation and Development (OECD), developed the set of indicators that can be applied within an overall framework to assess country competitiveness. The purpose of those indicators is to be useful

for governments to evaluate and measure tourism competitiveness in their country over time and to guide them in their policy choices (Dupeyras & MacCallum, 2013).

The indicators proposed by the OECD are organised around four categories (Dupeyras & MacCallum, 2013):

- **Indicators measuring the tourism performance and impacts**: In order to be competitive in the global market it is of a great importance to increase the economic value of tourism. This requires an increased and active collaboration across the tourism value chain aiming to overcome tourism high fragmentation, provide high quality overall tourism experience and efficiently usage of existing resources (i.e. infrastructure, staff and others). Traditional tourism indicators that assess the change and trends in jobs, income and revenues could serve as an indirect measurement of these issues.
- **Indicators monitoring the ability of a destination to deliver quality and competitive tourism services:** These indicators are related to the supply side of the tourism economy given the fact that measurement of destination competitiveness starts with production side and dynamic business environment.
- **Indicators monitoring the attractiveness of a destination:** For a destination to be competitive it is necessary to develop, enhance and maintain its attractiveness and distinctiveness. Tourists are seeking for attractive authentic experiences that include connections with local community, their culture and way of living. Hence, in order to monitor the destination competitiveness, it is appropriate to introduce indicators referring to the attractiveness.
- **Indicators describing policy responses and economic opportunities:** In many destinations, policies play an instrumental role in their sustainable tourism development by providing incentives for innovations and for enhancement of their competitiveness and attractiveness.

For each of the proposed categories three sets of indicators are developed: *core indicators* (recommended set of indicators that is considered to be concise means of measuring competitiveness), *supplementary indicators*, and *future indicators* (to be more precisely developed in the future).

Table 1: Core, supplementary and future development indicators

	Tourism performance and impacts	Ability of a destination to deliver quality and competitive tourism services	Attractiveness of a destination	Policy responses and economic opportunities
Core indicators	• *Tourism Direct Gross Domestic Product* • *Inbound tourism revenues per visitor by source market* • *Overnights in all types of accommodation* • *Exports of tourism services*	• *Labour productivity in tourism services* • *Purchasing Power Parity (PPPs) and tourism prices* • *Country entry visa requirements*	• *Natural resources and biodiversity* • *Cultural and creative resources* • *Visitor satisfaction*	• *National tourism action plan*
Supplementary indicators	• *Market diversification and growth markets*	• *Employment in tourism by age, education levels and type of contracts*	• *OECD Better Life Index*	

	Tourism performance and impacts	Ability of a destination to deliver quality and competitive tourism services	Attractiveness of a destination	Policy responses and economic opportunities
		• *Consumer Price Index for tourism* • *Air connectivity and inter-modality*		
Future development indicators		• *Government budget appropriations for tourism* • *Company mortality rate*	•	• *Use of e-tourism and other innovative services* • *Structure of tourism supply chains*

Source: Dupeyras & MacCallum, 2013, p 17

OECD approach focused on measuring tourism competitiveness as a base for economic contribution of tourism and proposed indicators are predominantly based on national statistics, but authors Webster and Ivanov investigated the impact of a destination's competitiveness upon tourism's contribution to economic growth using a cross-section with 131 countries and their research results revealed that destination competitiveness has no statistically significant impact on tourism's contribution to economic growth (Webster & Ivanov, 2013). Hence, more attention should be given to the measuring of other dimensions of tourism impacts such as social and environmental impacts, and perhaps use indicators more appropriate for the single destination level, rather than the country level.

2.2. UNWTO system of tourism indicators

Since the 1990s, the World Tourism Organisation (UNWTO) has been pioneering the development and application of sustainability indicators for tourism and destinations. In that context, the key baseline issues were developed and related baseline indicators were identified by the UNWTO experts. These indicators were recommended as a minimal set to be considered by destinations, in order to create a quality information base and allow comparisons with other destinations (UNWTO, 2004).

Table 2: Baseline issues and related baseline indicators

Baseline issue	Suggested baseline indicators
Local satisfaction with tourism	• Local satisfaction level with tourism (questionnaire)
Effects of tourism on communities	• Ratio of tourists to locals (average and peak period/days) • % who believes that tourism has helped bring new services or infrastructure (questionnaire-based) • Number and capacity of social services available to the community (% which are attributable to tourism)
Sustaining tourist satisfaction	• Level of satisfaction by visitors (questionnaire-based) • Perception of value for money (questionnaire-based) • % of return visitors
Tourism seasonality	• Tourist arrivals by month or quarter (distribution throughout the year) • Occupancy rates for licensed (official) accommodation by month (peak periods relative to low season) and % of all occupancy in peak quarter

Baseline issue	Suggested baseline indicators
	or month) • % of business establishments open all year • Number and % of tourist industry jobs which are permanent or full-year (compared to temporary jobs)
Economic benefits of tourism	• Number of local people (and ratio of men to women) employed in tourism (also ratio of tourism employment to total employment) • Revenues generated by tourism as % of total revenues generated in the community
Energy Management	• Per capita consumption of energy from all sources (overall, and by tourist sector – per person, per day) • Percentage of businesses participating in energy conservation programs, or applying energy saving policy and techniques • % of energy consumption from renewable resources (at destinations, establishments)
Water availability and conservation	• Water use (total volume consumed and litres per tourist per day) • Water saving (% reduced, recaptured or recycled)
Drinking water quality	• Percentage of tourism establishments with water treated to international potable standards • Frequency of water-borne diseases: number/percentage of visitors reporting water-borne illnesses during their stay
Sewage treatment (wastewater management)	• Percentage of sewage from site receiving treatment (to primary, secondary, tertiary levels) • Percentage of tourism establishments (or accommodation) on treatment system(s)
Solid waste management (Garbage)	• Waste volume produced by the destination (tonnes) (by month) • Volume of waste recycled (m3) / Total volume of waste (m3) (specify by different types) • Quantity of waste strewn in public areas (garbage counts)
Development control	• Existence of a land use or development planning process, including tourism • % of area subject to control (density, design, etc.)
Controlling use intensity	• Total number of tourist arrivals (mean, monthly, peak periods) • Number of tourists per square metre of the site (e.g., at beaches, attractions), per square kilometre of the destination, - mean number/peak period average

Source: UNWTO, Indicators of Sustainable Development for Tourism Destinations A Guidebook, World Tourism Organization, Madrid 2004. , p. 55-241

The proposed issues and indicators presented in Table 1 are only a shortlist of the wider recommendations developed by the UNWTO that include sustainability issues such as Access by Local Residents to Key Assets, Gender Equity, Accessibility, Health and Safety, etc. (UNWTO, 2004). Various countries have used the proposed indicators and adapted them to specific destinations. Moreover, UNWTO is currently in the process of developing a new indicator system through the initiative "Towards a Statistical Framework for Measuring the Sustainability of Tourism (MST)." The aim is to develop an international statistical framework for measuring tourism's role in sustainable development, including economic, environmental and social dimensions.

2.3. European Tourism Indicator System (ETIS)

ETIS was launched by the European Commission in 2013, as a unitary system of indicators for the sustainable management of tourism destinations. After pilot testing and several adaptations, the initial version of ETIS comprised a total of 27 basic indicators and 40 additional (optional) indicators, grouped into four sections (European Commission, 2013):

- Destination management: four core indicators and five optional indicators;
- Economic Value: five basic indicators and nine optional indicators;
- Social and Cultural Impact: seven core indicators and eleven optional indicators;
- Impact on the environment: 11 basic indicators and 15 optional indicators.

In further development and adaptation of ETIS framework "final" structure of indicators was proposed, comprising 43 indicators in four above listed sections, as presented in Table 3.

Table 3: ETIS core indicators

Section A: Destination management	
A.1 Sustainable tourism public policy	
A.1.1	% of tourism enterprises/establishments in the destination using a voluntary certification/labelling for environmental /quality/sustainability and/or Corporate Social Responsibility
A.2 Customer satisfaction	
A.2.1.	% of tourists and same-day visitors that are satisfied with their overall experience in the destination
A.2.2.	% of repeat/return visitors (within 5 years)
Section B: Economic value	
B.1 Tourism flow (volume and value) at destination	
B.1.1	Number of tourist nights per month
B.1.2	Number of same-day visitors per month
B.1.3	Relative contribution of tourism to the destination's economy (% GDP)
B.1.4	Daily spending per overnight tourist
B.1.5	Daily spending per same-day visitors
B.2 Tourism enterprise(s) performance	
B.2.1	Average length of stay of tourists (nights)
B.2.2	Occupancy rate in commercial accommodation per month and average for the year
B.3 Quantity and quality of employment	
B.3.1	Direct tourism employment as percentage of total employment in the destination
B.3.2	% of jobs in tourism that are seasonal
B.4 Tourism supply chain	
B.4.1	% of locally produced food, drinks, goods and services sourced by the destination's tourism enterprises
Section C: Social and cultural impact	
C.1 Community/social impact	
C.1.1	Number of tourists/visitors per 100 residents
C.1.2	% of residents who are satisfied with tourism in the destination (per month/season)
C.1.3	Number of beds available in commercial accommodation establishments per 100 residents
C.1.4	Number of second homes per 100 homes
C.2 Health and safety	
C.2.1	Percentage of tourists who register a complaint with the police
C.3 Gender equality	
C.3.1	% of men and women employed in the tourism sector
C.3.2	% of tourism enterprises where the general manager position is held by a woman
C.4 Inclusion/accessibility	
C.4.1	% of rooms in commercial accommodation establishments accessible for people with disabilities
C.4.2	Percentage of commercial accommodation establishments participating in recognised accessibility information schemes
C.4.3	% of public transport that is accessible to people with disabilities and specific access requirements

C.4.4	% of tourist attractions that are accessible to people with disabilities and/or participating in recognised accessibility information schemes
C.5 Protecting and enhancing cultural heritage, local identity and assets	
C.5.1	% of residents that are satisfied with the impacts of tourism on the destination's identity
C.5.2	% of the destination's events that are focused on traditional/local culture and heritage
Section D: Environmental impact	
D.1 Reducing transport impact	
D.1.1.	% of tourists and same-day visitors using different modes of transport to arrive at the destination
D.1.2	% of tourists and same-day visitors using local/soft mobility/public transport services to get around the destination
D.1.3	Average travel (km) by tourists and same-day visitors from home to the destination
D.1.4	Average carbon footprint of tourists and same-day visitors travelling from home to the destination
D.2 Climate change	
D.2.1.	% of tourism enterprises involved in climate change mitigation schemes, such as: CO_2 offset, low energy systems, etc.— and 'adaptation' responses and actions
D2.2.	% of tourism accommodation and attraction infrastructure located in 'vulnerable zones'
D.3 Solid waste management	
D.3.1.	Waste production per tourist night compared to general population waste production per person (kg)
D.3.2.	% of tourism enterprises separating different types of waste
D.3.3.	% of total waste recycled per tourist compared to total waste recycled per resident per year
D.4 Sewage treatment	
D.4.1.	% of sewage from the destination treated to at least secondary level prior to discharge
D.5 Water management	
D.5.1.	Water consumption per tourist night compared to general population water consumption per resident night
D.5.2.	% of tourism enterprises taking actions to reduce water consumption
D.5.3.	% of tourism enterprises using recycled water
D.6 Energy usage	
D.6.1	Energy consumption per tourist night compared to general population energy consumption per resident night
D.6.2	% of tourism enterprises that take actions to reduce energy consumption
D.6.3	% of annual amount of energy consumed from renewable sources (Mwh) compared to overall energy consumption at destination level per year
D.7 Landscape and biodiversity protection	
D.7.1	% of local enterprises in the tourism sector actively supporting protection, conservation and management of local biodiversity and landscapes

Source: European Union (2016), p. 21-22.

Some of the sections/areas and indicators included in ETIS overlap with OECD indicators and/or UNWTO baselines and indicators, which only illustrates the undeniable importance of the key topics related to identifying and measuring tourism impacts. ETIS is designed to be a flexible system, offering a high degree of freedom to the destinations that aim to implement it, and it can be chosen and applied by any destination without specific training. As described by Oliveira and associates, a seven-step scheme is suggested for destinations wanting to establish ETIS; the steps include raising awareness, creating a destination profile, forming a stakeholder working group, establishing roles and responsibilities, collecting and recording data, analysing results, and enabling on-going development and continuous improvement (Oliveira et. al., 2013). Results from research on the implementation of ETIS in some European countries such as Italy (Modica et al, 2018), Romania (Tudorache et al., 2017) and Ireland (McLoughlin & Hanrahan, 2016) imply that key problems related to the practical

usage of ETIS include lack of statistical data, expensive primary research necessary for obtaining the attitudes of tourists and residents, and insufficient engagement by local authorities.

3. Measuring tourism impacts in Croatian destinations: from theory to practice

With 20.01 million tourist arrivals and 107.03 million overnights, Croatia is a popular world-known tourist destination. Its unique cultural and natural heritage is one of the main motivations for tourist visits, but without a proper monitoring and management system, the growing number of visitors could pose a threat. The Croatian economy depends to a large extent on tourism income; hence, the successful and continuous development of tourism directly and indirectly affects the lives of a great number of people. Nevertheless, the unmonitored exploitation of natural and cultural resources, along with the exponential growth of the accommodation offering in popular tourist destinations, although economically lucrative for those involved in providing tourism services, can also be the cause of long-term negative economic, environmental and social impacts on host communities. Therefore, the establishment of a clear, understandable and unified system of tourism indicators suitable for measuring tourism impacts in Croatian destinations is imperative for sustainable strategic planning and informed decision making in this key segment of the Croatian economy. Having in mind the fact that Croatia is geographically, culturally and economically extremely diverse and so is its tourism offering, it is important to establish indicators suitable for individual destinations and their context. Apart from the selection of appropriate indicators for measuring tourism in the destinations, it is also important to define the destination area, as well as to appoint the authority(ies) that will be in charge of the development, measuring and analysis of the indicators. The following section addresses the issue of defining destination as a measurement unit, as a precondition to establishing a new/adapted tourism indicator system for Croatian destinations. Other challenges, particular for Croatia, are discussed after the description of the CROSTO project, currently the only viable initiative systematically dealing with measuring sustainable tourism development in Croatia.

3.1. Identifying "destination level"

As a result of the decentralisation process and territorial organisation reform of 1992, Croatia currently has more than 550 local self-government units (towns and municipalities) and 22 counties and the capital city of Zagreb (Klarić, 2017).
Every municipality/town has its own budget, democratically elected local self-government and, depending on the level of tourism development, its own local tourist board. Local tourist boards are in charge of creating and promoting tourism products, and coordinating the tourism offering and tourism statistics in terms of overnights and arrivals (through the E-visitor system). Therefore, it might be reasonable (after the selection of appropriate tourism indicators for measurement and analysis) to use towns/municipalities as measurement units (since every one of them can be observed as a single destination). Still, many municipalities and towns are underdeveloped (in general, but also in terms of the tourism offering), and do not have the resources for such an elaborate project for collecting tourism-related data, measuring specific elements and analysing them. Using the county level as a "destination" level in this particular example might be more effective, especially because every county has its own (regional) tourist board, but this solution also has certain downsides. For instance, within a single county, there can be areas that are drastically different in terms of tourism development, and putting those areas into a single statistical analysis might produce distorted or even inaccurate results. For example, Lika-Senj County is a county comprising Plitvice Lakes National Park which is on the UNESCO World Heritage list and is one of the most visited places in Croatia, but within the same county there are also many towns and municipalities with a very low level of tourism development. Perhaps the most accurate and

context-sensitive way of determining the borders of a given destination, for the purpose of tourism indicator implementation, could be case-to-case decision making. For example, the Plitvice Lakes area, including several municipalities in its immediate vicinity, could be a single tourist destination. Every island (regardless of the number of local self-government units situated on it) could be a separate tourist destination; several municipalities in a particular geographical area with similar characteristics (e.g. the Dalmatian hinterland) could be joined into one tourist destination, while some developed towns (especially along the Adriatic coast) should be deemed as separate destinations. Even though this type of approach might be useful for addressing areas with similar tourism-related characteristics, a problem occurs when it comes to appointing authorities in charge of tourism indicator systems, because this type of division does not follow the administrative division of the country, and additional funds would need to be allocated for establishing efficient field support.

3.2. Croatian Sustainable Tourism Observatory (CROSTO)

CROSTO – Croatian Sustainable Tourism Observatory has been established in 2016 with the main objective to continuously measure and monitor the sustainability of tourism. It is hosted by the Institute for Tourism and a member of the INSTO network thereby adopting standards and practices of monitoring sustainable tourism promoted by UNWTO. In measuring and monitoring procedures, CROSTO adopts the ETIS approach with the final goal to grow into a regional monitoring centre coordinating many local observatories all over Croatia (Marković Vukadin et al., 2018). After the experimental measurement of tourism sustainability conducted in the 2016, Institute for tourism conducted TOMAS Summer Survey 2017 (attitudes and expenditure of tourists) and Survey on satisfaction and attitudes of local population towards tourism development in 2018, which were both information base for calculation of 14 indicators of CROSTO for Adriatic region.

Table 4: Overview of CROSTO indicators

CROSTO indicator	Description/Scope	Potential limitations
Percentage of residents who are satisfied with tourism	Composite indicator based on a set of questions collecting resident attitudes towards tourism development and tourists	
Number of tourist nights per 100 residents	Composite indicator based on secondary data. Number of tourist nights in commercial and non-commercial accommodation facilities / 100 residents.	The quality of the survey results regarding non-commercial accommodation facilities might be questionable since hidden overnights could occur
Percentage of tourists who are satisfied with their overall experience in the destination	% of tourists who are satisfied with the overall tourist experience in the destination	Same-day visitors and tourists in non-commercial accommodation were not included in the survey's population. TOMAS survey as a source, should be conducted on a yearly basis
Percentage of repeat/return tourists	% of tourists in commercial accommodation facilities who have visited a destination during last 5 years	Highly dependent on type of accommodation. TOMAS survey as a source, should be conducted on a yearly basis
Number of tourist nights	Registered number of overnights realized in commercial accommodation facilities *	Only registered number of overnights is included, rate of non-registered overnights most probably differs among counties
Daily spending per tourist overnight	Average expenditures in euros per night per tourist in commercial	TOMAS survey as a source, should be conducted on a yearly

CROSTO indicator	Description/Scope	Potential limitations
	accommodation facilities in 2017	basis
Direct tourism employment as percentage of total employment	Share of persons employed in legal entities and in crafts and trades in NKD** section I: Accommodation and food service activities in August 2017 in total employment in legal entities and crafts and trades	Limited to employment in NKD section I only, employees in family housing/households are not included
Gross annual occupancy rate in commercial accommodation	Gross yearly occupancy rate in commercial accommodation The indicator will be extended in the future with monthly gross occupancy rates in the commercial accommodation	Only registered number of overnights in the commercial accommodation is included. It is highly dependent on the type and accommodation capacity structure
Energy consumption per tourist night compared to general population energy consumption per resident night	Total tourist energy consumption in GWh*** divided by total household consumption in GWh	Only registered number of overnights in the commercial accommodation is included. Additionally, energy consumption in households includes, partly, tourism consumption and most importantly: there are no updates of 2012 energy survey (consumption norms)
Water consumption per tourist night compared to general population water consumption per resident night	Water consumption by tourists in commercial accommodation compared to total water consumption by households	Only registered number of overnights in the commercial accommodation is included. The same water consumption by households on public water supply and hydrofoil pumps is assumed and there are no updates of 2008 consumption norm by accommodation
Percentage of sewage from a destination treated to at least secondary level prior to discharge	The official data on sewage treated to at least secondary level prior to discharge was corrected by rate of households/dwellings connected to a public sewer system on county level	The rate of households/dwellings connected to a public sewer system was applied to the total waste water (from households and economic activities) by counties
Waste production per tourist night compared to general population waste production per resident night	Waste production by tourists in relation to residents waste production	Only registered number of overnights in the commercial accommodation is included. The assumption is that tourists and residents have the same patterns of consumption and hence the same production of solid waste
Percentage of tourism enterprises using voluntary certification/labelling for environmental Corporate Social Responsibility	This indicator measures the awareness of accommodation providers regarding environmental/quality/sustainability and/or Corporate Social Responsibility in their operation	This is problematic when it comes to the household accommodation given the huge number of such facilities in Adriatic Croatia
Percentage of destination area out of the settlement's boundaries built for tourist purposes	The indicator measures and monitors areas out of the settlement's boundaries which is built or designated for tourist purposes	No updates on the state of spatial development of the Republic of Croatia. It is of outmost importance for the Adriatic Croatia to extend this indicator to

CROSTO indicator	Description/Scope	Potential limitations
		measure the % of built area for renting purposes within the settlement's boundaries (short-term rental in tourism)

Note: *Commercial accommodation facilities include hotels and similar accommodation, holiday and other short-stay accommodation, camping sites and camping grounds, other accommodation. **NDK - National Classification of Activities. *** GWh - Gigawatt hours

Source: Marković Vukadin et al., 2018, p. 7-20

As can be seen from Table 4 CROSTO indicators were formulated for the regional level of measurement, comprising different counties within Adriatic region and therefore, even though providing important information on the Adriatic region as whole, do not solve the problems with measuring tourism impacts on local level (in terms of micro destinations with common characteristics).

3.3. Critical assessment of key challenges in measuring tourism indicators in Croatian destinations

The CROSTO project has already identified certain limitations resulting from limited data or data that cannot be obtained (i.e. regarding visitor numbers as well as waste, water, energy and sewage system management) and because of the lack of new information on spatial development plans in Croatia. This section outlines other challenges identified by the authors that should be considered in future discussions and projects dealing with measuring tourism development on the local level.

3.3.1. Measuring and analysing economic impacts of tourism

Among the indicators proposed by the CROSTO project are tourist spending and the number of tourist overnights; however, without a much deeper and more complex analysis of potential leakages in the destination (e.g. percentage of goods and services that are imported in order to be offered to tourists), it is difficult to estimate the actual economic benefits of tourism for a host destination/region/country. In ETIS, this issue has been addressed through the indicator: "Tourism supply chain: Percentage of locally produced food, goods and services sourced by the destination's tourism enterprises." Direct employment in tourism has also been underscored as one of the key benefits of tourism development, but the current situation in Croatia demonstrates that a significant number of people are either not interested in working in the tourism sector, or choose to work in the tourism sector in other countries, where they can receive better salaries and/or working conditions. Therefore, the indicator related to tourism development should be carefully revised, perhaps in order to include only sustainable year-round employment in tourism, or, for instance, to encompass only local residents that are employed in the tourism industry. Finally, the economic contribution of tourism to a destination/host community should also be measured/analysed by the amount of tourism-generated income remaining at the local level (i.e. by using budgets of local self-government units and income from tourist tax that remains for local tourist boards) and evaluated by measuring or at least estimating the investment in local infrastructure, necessary to reduce the negative impacts of tourism activities (e.g. investment in sewage systems, additional cleaning of public areas, etc.).

3.3.2. Measuring and analysing social impacts of tourism

Having a great number of tourists/visitors at the same time in a destination can give rise to a complex set of impacts on local residents, and there is often a significant difference in perceptions and attitudes towards tourism between residents who are involved in tourism

activities and those who are not. Even though satisfaction with tourism is proposed as a composite indicator, based on the questionnaire for local residents, more attention should be given to examining the perceived quality of life of local residents and the level to which tourism influences quality of life and overall well-being. Having only one indicator for the overall relationship between residents and tourism development can be considered as underestimating the importance of local residents in achieving long-term sustainable tourism development. Hence, the UNWTO publication on Indicators of Sustainable Development for Tourism Destinations provides many more options for measuring the well-being of local communities, including housing issues, percentage of residents participating in community events, the number of residents who have left the community in the past year, etc. Also, there are already developed and tested measurement scales oriented on perceived quality of life expressed through personal well-being index (PWI) and national well-being index (NWI), developed by Cummins et al. (2003). Also OECD is proposing the approach oriented on measuring current and future well-being of residents as important dimensions to understand overall quality of life concept (OECD, 2011). If tourism is to be used as a tool for local development, social impacts of such development must be clearly identified, measured and monitored.

3.3.3. Measuring and analysing environmental impacts of tourism

When it comes to ecology and environmental sustainability, rarely does tourism have a positive impact on nature and the environment, mostly through additional protection and conservation measures. Much more frequent are situations where natural heritage and resources are under serious threat as a result of unsustainable and irresponsible tourism development manifested through unchecked construction of infrastructure, the building of accommodation facilities without proper waste disposal, sewage systems or adequate water and energy supply, the devastation of coastal areas, etc. Therefore, it can be argued that any additional tourism development – whether it be the construction of new accommodation or other tourism-related facilities, the building of new roads or other transport infrastructure, or even the development of new walking trails that run through the countryside – causes certain damage to the existing ecosystem in a destination. Even if we choose not to take such a firm stance on this issue, merely measuring the environmental impact of tourism through consumption of water and energy, wastewater treatment and managing more waste is underestimating the entire effect of tourism on nature and the environment. Estimating tourism externalities should be a very important topic for Croatian tourism planners and decision makers on all levels because it is directly connected to investments in more ecologically acceptable technology and infrastructure in tourism facilities (regardless of the type of investor: the public or private sector).

4. Conclusion

Many countries recognise tourism as one of the important development generator given that it is producing many (particularly economic) impacts (i.e. generates income, jobs, attracts investments, crates wealth, etc.). Sustainable development implies the necessity of responsible usage of available resources (natural and social) in order to gain economic benefits. This results in enhancing the awareness of all stakeholders regarding the necessity of equal distribution of tourism impacts as well as maximising the tourism benefits and the minimisation of its costs. Particular attention should be given to the local community well-being and quality of life, tourists' satisfaction as well as to active protection and the enhancement of the natural environment through tourism activities. Therefore, measuring tourism development and its sustainability, monitoring its progress and comparing results among destinations should be one of the key priorities for decision makers on all levels in tourism-oriented countries. Of course, planning based on the appropriate and adequate system

of indicators to be measured, should also be followed by appointing responsibilities for measurement, analysis and monitoring of results, and financial and other resources will need to be found to carry out these complex processes. Use of indicators is seen as a fundamental part of sustainable tourism destination planning and management process (UNWTO, 2004). Hence, each destination, according to its particularities and issues (key risks), should choose the set of indicators that suits its situation the best as well as to choose those indicators that it is actually able (has resources) to measure and monitor. That will ensure the destination management adequate information basis upon which they will be able to timely react and make custom made decisions as well as efficiently allocate its resource. In turn, by monitoring the measurement results, some early warning could be detected and negative impacts could be minimised or even avoided, resources would be efficiently used and benefits (economic, social and environmental increased).

Croatia, as a tourist country has made some initial steps toward measuring tourism development and its impacts on destinations through CROSTO project, but this initiative needs to be expanded on the entire national territory, and identified limitations and recommendations on the choice of key topics and indicators provided by this paper can contribute to future planning in this important segment for Croatian tourism future.

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THE ROLE OF ORGANIZATIONAL FACTORS IN THE TRANSFER OF KNOWLEDGE

ABSTRACT

In human resources management, efforts to acquire new employee knowledge are much more emphasized today than it is to transfer knowledge already acquired among employees. Ineffective transfer of knowledge among employees often leads to frustration and stress of employees, declining interest in the job, creating negative attitudes of employees towards acquiring new knowledge, negatively affecting attracting talents, etc. The research focuses on the identification and significance of organizational factors. It was conducted on a quota sample of 110 respondents from several medium-sized organizations from different industries in the three counties of north-western Croatia. The questionnaire as a measuring instrument included six organizational factors: organizational culture, strategies in knowledge transfer, empathetic values of employees, duration and quality of organizational learning model, motivation for knowledge transfer, IT support. The hypothesis was: the role of organizational factors is significant in the transfer of knowledge between employees. The multiple regression analysis method was applied.

The hypothesis was confirmed by the results [$R2 = 0.37$, $F(4,719) = 6.54$; $p < 0.05$].

Motivation for knowledge transfer was the primary factor involved with 42%. This was followed by the quality and duration of the organizational learning model (21%), followed by empathetic knowledge and values of employees (17%), organizational culture (9%), IT support (7%). Knowledge transfer strategies were ranked lowest with 4%. These results lead management to focus primarily on identifying the motive and creating employee motivation to transfer the acquired knowledge to other employees. Also, attention should be paid to the perception of the quality of knowledge acquisition, empathic value and recognition of organizational culture. Management's emphasis on the development and implementation of knowledge transfer strategies clearly does not produce the expected results and should not be given greater attention.

Keywords: employees, knowledge, transfer.

1. Introduction

Knowledge today is one of the key factors in making an organization competitive. Knowledge is the basic strength of human capital that distinguishes successful ones from unsuccessful organizations.

Modern knowledge comes in the dimensions of explicit or accessible and tacit or hidden knowledge (Nonaka, I. & Takeuchi, H., 1994,237). Explicit knowledge is a type of knowledge that can be verbally explained, codified, or recorded in specific documents. Tangible intangible knowledge is intuitive and difficult to express. It is located in the minds of individuals and is based on life experience, reading, learning, beliefs, attitudes, motives.

Once these two types of knowledge are identified, it becomes important to examine how employee knowledge is managed. Knowledge management can be defined as being conscious, planned and organized, constant and consistent, implementing different strategies for collecting, storing, using and distributing it to those who need it (Stuhlman, D.D., 2012,48). This implies creating knowledge its internalization, use and transfer. There have been many studies in the last two decades that have explored knowledge creation, but relatively few have addressed the aspects and content of knowledge transfer in organizations. Symbolically there was research focused on the success of knowledge transfer and the possible role of key organizational factors in that transfer.

This research is based on the results of some of the key organizational factors they have identified (Cho, B. & Lee, H., 2000,172). They included organizational culture, organizational strategies, information technology, training, and organizational performance. We find a similar structure of organizational factors in the research with other authors (Sekeran, U., 2003, 54).

2. Knowledge transfer in organizations

Knowledge transfer in organizations is a process that consists of at least three stages: initial, full and productive (Fig. 1).

Figure 1: Knowledge transfer in organizations
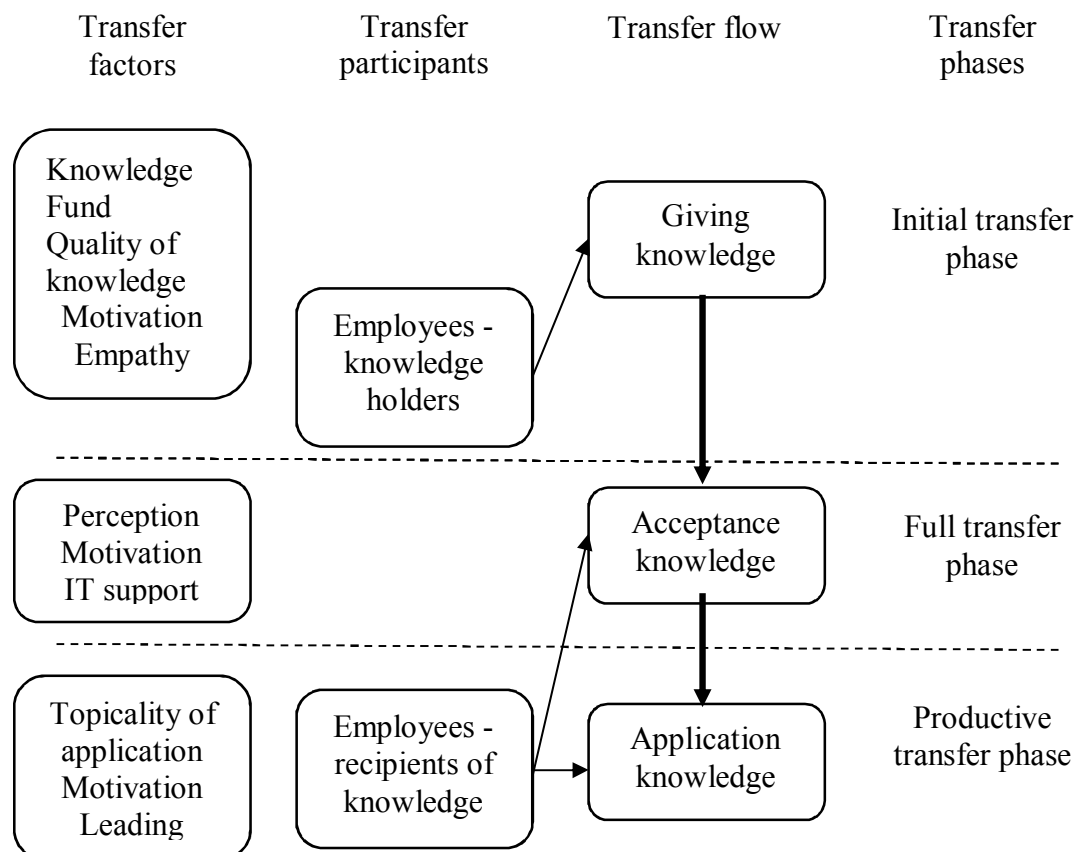
Source: author

The initial phase begins with the assignment of knowledge by members of the organization who possess that knowledge, full implies the acceptance of knowledge by those who lack it, and productive application of it in the performance of their work tasks. The flow of knowledge

transfer is not straightforward and depends on a number of different factors to take into account. The most common mistakes made in the management of organizational knowledge are precisely management's misconceptions that the realization of the knowledge acquisition program alone is sufficient that the participants in that acquisition program will transfer the acquired knowledge to other employees who do not have that knowledge, and that the acquired knowledge will be applied without incentives in work.

This research will be based on exploring the initial phase of organizational knowledge transfer, that is, identifying and quantifying the impact of factors in that transfer process. This first phase of knowledge transfer is considered to be significant and in some way condition and determine its further course.

3. Organizational factors in the initial phase of the transfer knowledge

Using the findings cited by the authors cited, this study identified the following six organizational factors that are believed to have a significant impact on knowledge transfer in organizations:

1. Organizational culture,
2. Knowledge transfer strategies,
3. Empathic values of employees,
4. The duration and quality of the organizational learning model,
5. Motivation for knowledge transfer,
6. IT support.

Given the limited space, these factors will be briefly discussed below.

3.1. Organizational culture

Organizational culture describes attitudes, experiences, beliefs and values as well as specific collections of norms shared by people and groups in organizations. Likewise, this culture sets the criteria for people's behavior in organizations. Organizational culture is one of the factors that determine how employees interact with each other, but also with other stakeholders in the organization (Hills, C.W.L. & Jones, G.R., 2001,364). In their constructive content, organizational culture is considered to be the most common and difficult organizational component to change (Schein, E.H., 2005,87). Culture can be viewed in different ways as a culture of power distance, a culture of avoidance, a culture of insecurity, a culture of individualism, a culture of collectivism and teamwork, etc. (Hofstede, G., 1980, 37). One of the well-known classifications of organizational culture is on power culture, role culture, task culture, and person culture (Handy, C.B., 1985,148). The individualistic culture that is often emphasized is the function of personality and is based on a value system in which knowledge is viewed as a personal good that should not be shared with others. According to this concept of organizational culture, knowledge is a sign of personal prestige and creation of competitive values of individuals in the organization, which creates status in the organization and career advancement. The question thus arises: can organizations that have opted for an individualistic culture successfully create knowledge transfers between employees? If so: how? Organizations that have opted for a culture of teamwork and collectivism also face difficulties. How to motivate employees to compete in the acquisition of new knowledge and thus become knowledge leaders within their teams? No less difficult is the answer: How do you encourage individuals to pass on their knowledge to other team members?

3.2. Knowledge transfer strategies

In order to successfully manage employee knowledge transfers, organizations encourage employees to acquire the necessary knowledge. Perrin and Rolland have explored the ability to manage organizational networks and transfer knowledge at the global social level (Perrin, I. & Rolland, N., 2004,36). They came to the realization that, despite the use of different strategies and mechanisms for knowledge creation and transfer, organizations still lost their expected results as this lacked stronger support from top management. In the past, according to them, organizational strategies were based on the codification of information, which was very wrong instead of creating a collaborative climate outside the organizational networks. The emphasis of modern strategies in the creation and transfer of knowledge in organizations should be on stimulating the intellectual and even more social capital embodied in knowledge networks while promoting coordination by the top management of organizations.

3.3. Empathic values of employees

Emotions and emotional intelligence are indispensable links in the learning process in organizations. Donacefard and co-workers position emotional intelligence as one component of this learning (Donacefard, H. et al.2012: 1928). For them, the success of the acquisition and transfer of knowledge are affected by the structure of emotions, the identification and development of emotions, the exchange of emotions, emotional temperature, emotional contagion, etc. process. Particular emphasis is placed on mental learning models and mental knowledge transfers. One study found that the neuroscientific links between managers' attitudes toward learning in organizations and the success of learning, that is, the acquisition of new knowledge and skills by employees, are very strong. Managers who spread positive energy and emitted positive emotions toward learning led to the acceptance of learning among employees and vice versa (Pinkley, R.L. 1990,122).

Significant results have also been achieved in investigating the link between employee frustration and willingness to learn, and organizational and learning conflicts (Brehmer, B. 1996,994). Significant is the contribution made by Magyar-Stiffer, where it was found that emotional intelligence significantly affects a number of elements of tacit knowledge as well as the transfer of that knowledge to employees (Magyar-Stiffer, V. 2013, 61). The orientation of trainees to strive to adopt the content of that training has its additional meaning and value. It determines the willingness to transfer the acquired knowledge during training to other employees - team members. It has been observed that introverted training participants who do not possess empathetic preferences, abilities and values are not inclined to transfer the acquired knowledge to their co-workers and team members (Tharenou, P., 2010, 156).

3.4. Duration and quality of organizational learning models

In addition to these factors, the training itself, as an organizational factor, is specifically focused on improving employee competencies. For example, mentoring is known to encourage continuous learning and problem solving skills (Hwang, 2003). A series of studies confirms and implies that training is the most important factor in gaining knowledge. However, the authors have not shown that the ability to train also affects the success of knowledge transfer. (Swart et al., 2005). In the construction of each model of organizational knowledge acquisition, in order for it to be effective and in transferring this knowledge to other employees, a minimum of the following starting points should be adopted.

1. Self-awareness and level of understanding of the internal energy of the training participants. It involves the processes of self-actualization and self-realization about how the knowledge and skills acquired through training can be incorporated into a job that the employee performs better. Hardening as we become self-aware of our emotions, strengths and weaknesses, we can begin to think about how to manage and apply them to help us achieve our goals (Zeidner, M. et al., 2004, 385).

2. The ability of trainees to monitor training content is above all a highly selective perception process (Aguinis, H. & Kraiger, K., 2009, 467). It is influenced not only by the individual and actual needs of the trainees and motivational incentives, but also by a number of known and unknown factors that need to be known before decisions are made to instruct trainees.

3. Some authors especially emphasize the importance of learning style in the acceptance of training content and indicate that in management activities of human resources management should intensively work on adopting organizational models and learning styles. This will reduce the possible risks in accepting the training content and implementing it more effectively in the work (Tharenou, P., 2010,155).

4. The results of some studies confirm that the effectiveness of training content adoption is highly correlated with certain employee dimensions that come from characteristics of their personality such as conscientiousness, extroversion, self-control, compassionate empathic orientation (Burke, L., & Hutchins, H., 2007.285).

5. One of the few studies in this field points to the undoubted predictive value of training self-evaluation, and it is argued that the results obtained can be very useful to managers in making decisions when engaging trainees for future training (Obach, M. S. (2003,327).

3.5. Motivation for knowledge transfer

The motivation of the trainees as a factor of the effectiveness of the training is also significant in all stages: planning and preparation of training, implementation of training, application of post-training knowledge and transfer of acquired knowledge to other employees. In order for an employee to transfer his knowledge to others, he must primarily be motivated to acquire that knowledge. Contrary to the most commonly held opinions and the notion that material motivators influence the greater motivation of employees to adopt training content, various internal, psychological motives are increasingly being pointed out. Pride as a positive trait within a work group or, in turn, avoiding feelings of guilt or less value in a work group that is strengthened through the acquired knowledge in training, have proven to be good motives for adopting training content (Ryan R.M. & Deci E.L., 2000, 73). The relative position of the employee in the continuity of his / her self-determination through the satisfaction of his / her basic psychological needs such as competencies, autonomy in work, advancement in the organization, etc. has been confirmed to be excellent incentives in acquiring knowledge in training (Ryan, R. M., 1995, 416).

Gouza assumes that motivation corresponds to such emotional processes that cause inspiration and determination of an individual's voluntary actions that help him or her achieve his or her personal goals (Gouza, A., 2006, 19). Employees transfer their knowledge to others related to their individual learning when intrinsically motivated (Huysman, M. & de Wit, D. 2004,84). Employee motivation plays two important roles in knowledge transfer. First is the reward that this individual will receive from the transfer process itself, and second, his or her perception that he or she is personally a source of increase and participation in increasing organizational knowledge (Lucas, L. M. & Ogilvie, D. 2006, 16).

3.6. IT support

Alony and his colleagues explored the differences between knowledge transfer, collaboration, and communication and their interconnection (Alony, I., Jones, M. & Whymark, G.C. 2007,52). It turned out that there was an exchange and transfer of knowledge within the framework of team collaboration and that it was successful whenever there was a good flow of information. They confirmed in the study that the same factors that enable explicit knowledge transfers also enable tacit knowledge transfers. Factors that motivated employees for knowledge transfers were identified as networks, relationships, organizational elements, and trust. One of the major contributions to IT support for knowledge transfer in the organization was provided by Odigie and Li-Hua by exploring channels of tacit knowledge transfer (Odigie, H. A. & Li-Hua, R. 2008, 26).

4. Aim and research hypothesis

The aim of the research is to identify the factors of organizations that influence the initial phase of the knowledge transfer flow. It wants to quantify them so that they can serve as a useful tool for managers in managing organizational knowledge transfers. This is intended to help reduce the many risks that managers face when making investment decisions, transferring and applying knowledge.

The following hypothesis was raised: The role of organizational factors is significant in the transfer of knowledge between employees.

5. Methodology

5.1. Research design

The study used primary and secondary sources. Secondary sources consisted of textbooks, journals, newspapers, and published articles on the Internet, as well as other relevant material useful in this research. The secondary source also included extensive search in various databases used primarily for human resources management, namely: PsycARTICLES, SAGE, xpertHr, ProQuest, Scopus, Wiley, EBSCO, ERIC, SRM, ScienceDirect. The primary source was data collected by direct interviewing of field respondents on a quota-selected sample using a structured questionnaire constructed for the purposes of this research. The survey was conducted in the period September-December 2019.
The author has received approval from the HR department of the organizations covered to access respondents. The questionnaires were completely anonymous. Verbal consent was obtained from each survey participant. All participants were provided with information about the purpose and purpose of the research. In order to protect participants from the risk, the questionnaire did not record the names of the participants, the identification numbers and names of the organizations in which they worked.

5.2. Research area, population and sample

The study was conducted in the three counties of north-western Croatia. Five large organizations from different economic sectors are involved. The population consisted of all employees in full-time employment with over five or more years of service. Specifically, so many years were considered to be the least necessary to cover those employees who had completed at least three training sessions (or other forms of gaining new knowledge and skills).

The sample size was 110 subjects (n = 110). The sample size was determined by Yamane's statistical formula (Yamane, T., 1967,136). The sample was quaternary and stratified. Respondents were selected from an alphabetical list of all employees who met two criteria: (1) to have at least five years of continuous service in the organization, sent by their organizations.

5.3. Research instrument

The research instrument was a questionnaire consisting of three parts. The first was the statistical characteristics of the respondents: gender, age, qualifications and seniority. In the second part, 18 statements are structured (three for each employee knowledge transfer factor involved). The items in the scale are designed using a five-point Likert scale model with levels of agreement with the statements: (1) I completely disagree; (2) I disagree; (3) and I agree and disagree; (4) I agree; (5) I totally agree.

The claims are constructed on the basis of the author's free selection and judgment from the following sources:

1. By adjusting Sekaran scales that measure organizational culture, organizational strategy, information technology (Sekaran, U., 2003).
2. Empathic values of employees are derived from the scales used by Garnefski et al. (2001) and Hofman et al. (2016)
3. For Factor Needs: The duration and characteristic of the organizational learning model constructed statements from the scales used by Chiaburu and Tekleab (2005).
4. According to the settings of claims for constructing knowledge transfer scales, items for motivation in knowledge transfer were taken from Osterloh, M. & Frey, B. S. (2000).

The third part of the questionnaire was about determining the effect of the transfer of acquired knowledge on other members of the team or organization. He had only one item or claim that the respondent had transferred the acquired knowledge to other employees. It consisted of five levels of positioning that claim: (1) I never conveyed; (2) I rarely conveyed; (3) and I transmitted and did not transmit; (4) I was transferring; (5) I was constantly uploading.

Claims were subjected to reliability analysis using Cronbach's alpha coefficients (Cronbach, L.J. 1951: 297). Also, they underwent convergent validity analysis using factor analysis (Hair, F.J.J. et al., 2010).

5.4. Research variables

As a dependent variable in this research was the success in knowledge transfer measured in the third part of the questionnaire. The independent variables are: (1) organizational culture; (2) knowledge transfer strategies; (3) employee empathetic values; (4) the duration and quality of the organizational learning model; (5) motivation for knowledge transfer; (6) IT support.

5.5. Research Method

The multiple regression analysis method was applied. Statistical analysis was also used. Statistical data processing was performed using Microsoft Excell and SPSS (Statistical Package for Social Sciences, 21.0) software packages.

5.6. Limitations

Almost all major research into organizational knowledge transfer has been developed in developed countries. In transition countries, such as Croatia, there was no such research (as far as the author is aware). This is a kind of limitation, because the results obtained in this study

cannot be compared realistically since they are not based on the same population. Similarly, the effectiveness of the transfer of training has not been established so far in the organizations covered by the research, but only the application of the learned knowledge to the trainees. Despite these limitations, it is believed that it will not diminish the value and significance of the research results.

6. Results of research

The structure of respondents according to statistical, demographic characteristics is:

a. By gender: women 74 (67.27%), men 36 (32.73%),
b. By age: up to 35 years 32 (29.09%), 36-55 years 61 (55.45%), 56 and over 17 (15.46%),
c. Higher education: secondary 69 (62.72%), 23 high (20.91%), college and more 18 (16.37%),
d. According to length of service: 5-10 years 25 (22.73%), 11-20 years 64 (58.18%), 21 and over 21 (19.09%).

The most common profile of respondents is women between the ages of 36 and 55, with secondary education with 11 to 20 years of service.

Table 1: Statistical characteristics of the variables included

Variables	Mean (SV)	Coefficient of variation (V)	Standardized feature (z)	Pearson Asymmetry Measure (S^k)
Organizational culture	2,753	32,06	-1,74	+1,648
Knowledge transfer strategies	2,504	18,31	-0,37	+2,327
Employee empathy	3,476	8,47	2,08	-1,506
Duration and quality of the learning model	4,027	41,02	0,91	-2,014
Motivation for knowledge transfer	4,371	15,94	-1,53	+1,738
IT support	3,162	27,65	1,72	+1,3025

Source: author

The highest mean value is in the motivation for knowledge transfer, and the lowest skewed strategy is that transfer. The average deviation from the mean values, expressed as a percentage, is highest in terms of duration and quality of the learning model, and least in employees' empathetic values. The deviation from the mean expressed in terms of standard deviations is the largest in the empathetic values of employees. The distributions for most variables are positively asymmetric except for the empathetic values of employees and the duration and quality of the learning model.

Table 2: Cronbach alpha variables consistency indicators

Independent variables	Calculate alpha indicator	Rank meaning	Alpha reference indicator	The consistency of the variable
Organizational culture	0,7068	6	0,7<alpha<0,8	acceptable

Independent variables	Calculate alpha indicator	Rank meaning	Alpha reference indicator	The consistency of the variable
Knowledge transfer strategies	0,8152	3	0,8<alpha<0,90	good
Employee empathy	0,9371	2	0,9<alpha<1,0	excellent
Duration and quality of the learning model	0,7903	5	0,7<alpha<0,8	acceptable
Motivation for knowledge transfer	0,9605	1	0,9<alpha<1,0	excellent
IT support	0,8022	4	0,8<alpha<0,9	good

Source: author

Of the six independent variables involved, two have excellent consistency: empathetic employee values and motivation for knowledge transfer. Good consistency is shown by the same two variables: knowledge transfer strategies and IT support. Two variables also show acceptable consistency: the duration and quality of the learning model and organizational culture. There were no inconsistent variables since all values were above 0.7.

Table 3: Indicators of reliability and convergent validity of the variables

Independent variables	Composite reliability (CR)	Average Variance Separated (AVE)	Factor weights
Organizational culture	0,8141	0,7120	0,8205
Knowledge transfer strategies	0,9264	0,6894	0,6922
Employee empathy	0,7628	0,7183	0,6914
Duration and quality of the learning model	0,8053	0,6506	0,7376
Motivation for knowledge transfer	0,9476	0,8015	0,8023
IT support	0,9672	0,7032	0,8819

Source: author

Factor analysis (a function of the PLS algorithm) extracts the reliability and convergence validity of the independent variables. The values of the factor weights of all six variables are above 0.5, indicating that indicators of the same converge well according to the latent constructs. The convergent validity of the variables involved is also satisfied since the composite reliability of the variables (CR) is greater than 0.7 (the average value of the variance extracted is 0.6743). All composites are greater than the AVE value.

Table 4: Aggregate results of multiple regression analyzes of organizational factors in knowledge transfer

Independent variables	β	t	P
Organizational culture	0,15	- 0,69	>0,05
Knowledge transfer strategies	0,06	0,05	>0,05
Employee empathy	0,28	2,74	>0,05
Duration and quality of the learning model	0,34	1,32	>0,05
Motivation for knowledge transfer	0,42	1,96	>0,05
IT support	0,09	0,38	<0,05

Source: author

R^2 = ;0,37; F = 4,79; , DW = 1,43

These results indicate that the six organizational factors involved in the initial phase of knowledge transfer account for 37% of the variance in total transfer efficiency. This percentage of the sum of the total squares of deviations was interpreted by the relationship between organizational factors of knowledge transfer and success in that transfer, which can be accepted as a significant result.
The F value confirms that the coefficient of determination is significant and that, based on this value, we can determine that all regression coefficients are significantly different from zero. Durbin.Watson (DW) value indicates that there is no first order autocorrelation among the observed variables.

Among the variables included in the research, the greatest correlation with the outcome of the transfer (viewed through the personal perception of the respondents in the knowledge transfer performance) has the motivation of the employees to transfer the acquired knowledge to other employees (= 0.42, t = 1.96; p> 0.05) and is 34%. Following is the duration and quality of the learning model (= 0.34, T = 1.32, p> 0.05) with 34%. Empathic values and preferences of knowledge holders (= 0.28, t = 2.74, p> 0.05) ranked third in the relationship with the outcome of perceived learning transfer (28%). Organizational culture (= 0.15, t = -0.96, p> 0.5) ranked fourth with 15%. The penultimate place has IT support (= 0.09, t = 0.38, p <0.05) with 9%. The last variable is the strategy in knowledge transfer (= 0.06, t = 0.05, p> 0.05) at 6%.
None of the four included statistical characteristics of the respondents showed statistically significant differences.

7. Discussion

The results of the presented research indicate that six organizational factors are involved id and participates in the transfer of knowledge between knowledge holders and recipients who need that knowledge. These are: motivation for knowledge transfer, learning models, empathetic values of employees, organizational culture, IT support and knowledge transfer strategies. The influence of these factors on the outcome of organizational behaviour or on knowledge transfer has been proven. The findings of Cho and Lee and Sekeran were confirmed by the fact that in addition to the factors identified in this study, employees' empathetic values and learning models were included. Both of these included variables proved to be highly ranked in the regression analysis (empathic values on the third and learning models on the second rank).

Training and models of knowledge acquisition are, as an organizational factor, second in knowledge transfer. In his research, Swart identified the value of coaching in the acquisition of knowledge, but did not identify transfers of the same. An additional step has been made in this research and it has been confirmed that learning models, their quality and other performance significantly influence the knowledge transfer. Motivation is the highest ranked factor in knowledge transfer in this research. The results obtained by Huysman and Wit were confirmed by claiming that employees transfer their knowledge to others related to their individual learning when intrinsically motivated. In this research, the types of motives in knowledge transfer were not explored. The rewards that an individual will receive from the knowledge transfer process itself and his or her perception that he or she has personally contributed to the source of enhancement of organizational knowledge pointed out by Lucas and Ogilvie may be a significant impetus for one of the following studies.

Organizational culture did not significantly participate in knowledge transfer. Since the research plan was not the starting point for defining the forms of that culture in the organizations from which the respondents were involved in the research, it was not even possible to give an overview of the types of organizational culture and its allytic approach to knowledge transfer. Individualistic culture is most commonly promoted in many organizations today and is based on a value system in which knowledge is viewed as a personal good that should not be shared with others. The empathetic preferences and values of the respondents identified in this study, however, point to a possible direction of thinking that in the structure of the included populations, cultures of teamwork rather than individualism are most likely represented. The fact that organizational culture is perceived by the respondents as the fourth factor in the transfer of knowledge may mean that it is not clearly recognizable in the included population, or that it is not yet sufficiently constructed, which is the most common situation in organizations of transition societies.

IT support in knowledge transfer is not significantly positioned. Perrin and Rolland also confirmed this in their research. They concluded that despite the use of different strategies and mechanisms for knowledge creation and transfer, organizations remained unpredictable because of the lack of stronger support from top management, despite the fact that information technology was significantly represented. This research did not include top management's views on their relationship to knowledge transfer. Creating a collaborative climate inside and outside organizational networks with the implementation of social capital should be a driving impetus that, with good IT support, can contribute to better effects in knowledge transfer.

Emotions and emotional intelligence are indispensable links that have already been confirmed as a significant factor in the learning and transfer processes learned in organizations. We have included them in this research and are convinced that they have a significant impact on the initial transfer process. The views and results of Donacefard and his associates were confirmed. As the survey did not include managerial attitudes, as indicated above, neither could positively identify managers' emotions towards learning and transfer of knowledge obtained by Pinkley and Magyar-Stiffer. Similarly, this study did not identify the psychological characteristics of the respondents and could not be offered answers about introverts and extroverts of respondents in whom Tharenou finds that they have significantly influenced the processes of acquiring and transferring knowledge in organizations.

8. Conclusion

The results of this research indicate a high degree of correlation between individual organizational factors and outcomes of knowledge transfer. By identifying and ranking the factors of the organization that influence the initial phase of knowledge transfer, the goal of the paper is fulfilled and the hypothesis established. The lessons learned enable managers to access tools that can use them to manage knowledge transfers and reduce the risks involved in managing organizational knowledge.

The research identified as the highest ranked factors of knowledge transfer the motivation, duration and quality of the learning model, as well as the degree of empathy and propensity of the knowledge holder to transfer it to other employees of the organization. It is these highly ranked factors that should serve as a direction for managers to maximize the benefits of knowledge transfer, and should be further strengthened by managers in organizations.

On the other hand, low-level organizational factors, which are shown by a lower degree of transfer linkage, should by no means remain neglected by managers. Thus, for example, in this research, organizational culture did not participate significantly in knowledge transfer. One reason for this could be the lack of recognition of the role of organizational culture in transition countries, such as Croatia. A number of studies to date have undoubtedly demonstrated the great impact of organizational culture on all aspects of human resource management, and thus on the process of knowledge transfer. It is this fact that opens the space in the future for exploring the interrelationships of particular types of organizational culture and their impact on the knowledge transfer process.

The case study did not include top management's views on their relationship to knowledge transfer. Today's managers need to understand the importance of their role and degree of responsibility in the transfer of knowledge among employees. It is believed that the results presented in this research will at least encourage managers to think about the benefits of a quality knowledge transfer. In this regard, it would be very useful in future research to examine the extent to which managerial attitudes can help or assist in the process of knowledge transfer in business organizations.

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MEASURING VOLUNTEER MOTIVATION IN THE CREATIVE INDUSTRY POPULARIZATION PROJECT

ABSTRACT

Volunteering is a socially responsible and voluntary behavior of an individual with an increasing role in the development of the community and society as a whole. Linking volunteering with the development of the creative sector contributes to shaping innovative creative production and thus to the processes of institutionalizing the creative industry. This paper examines and analyzes what motivates youth to participate in volunteering activities during their formal education.
The paper is focused on an example of positive practice of a higher education institution. This is a popularization symposium of the creative industry called Creative Treasury, which rests upon voluntary engagement of professors, students, creative professionals, amateurs and other volunteers. Such work resulted in the development of a volunteer network, which records an increasing number of volunteer hours dedicated every year to the organizational and program activities of the event.
The survey was conducted in 2018 and 2019, and the respondents (n = 122) are active volunteers of the Creative Treasury project whose views were collected through a structured questionnaire. It was confirmed that there is a high correlation between the development of personal and social skills and the opportunities for self-improvement. The paper provides recommendations to future researchers of related phenomena to establish student volunteer projects as a type of formal learning, a collaborative way of developing the skills of both mentors and students, and a way of branding an educational institution. The contribution of volunteer projects of the academic institution confirms the second hypothesis of the paper stating that volunteer projects conducted by the academic institution link theoretical knowledge and practical needs of the economy (development of the creative industry), as well as research and practical cooperation of mentors and students, and contribute to developing and improving students' skills as a fundamental competitive advantage in the labor market.

Key words: *motivation research, student projects, Creative Treasury, festival, correlation analysis.*

1. Introduction

Volunteer contribution is a strong ground for finding solutions to various issues related to the development of society as a whole. Volunteering has been recognized as a form of altruistic action whose goal is to provide assistance to others (a group, an organization, an association) with no expectation of material reward (Musick and Wilson, 2008). A major determinant of volunteering is the contribution of one's free time to activities aimed at the well-being of an individual or community (Auld, 2004; Ledić, 2007; Ćulum, 2008; Musick and Wilson, 2008; Zrinščak et al., 2012; Pološki Vokić et al., 2013; Hyde and Knowles, 2013). It is also defined as "civic virtue that contributes to community development, builds a sense of solidarity, helps build social and human potential, and initiates change in society" (Ledić, 2007, 9). Volunteering plays a very important role in various fields of activity, "from education to the environment, social policy and the judiciary" (Ćulum, 2008, 8). At the same time, the existence of various citizen initiatives fosters social responsibility and the development of civil society, and citizens are a key determinant of active action in all spheres of society.

This paper studies what motivates young people to participate in volunteering activities during their formal education, as well as their perspectives on volunteering. Youth volunteering enhances quality of life by developing professional skills beneficial to future career choices (Jones, 2000; Smith et al., 2010; Jurina, 2015). Analysis of a comparative research study on young volunteers from 12 countries showed that Croatian students are at the bottom of the list of countries under study, and their views suggest that volunteering in the Republic of Croatia has not been sufficiently developed and popularized among students (Zrinščak et al., 2012). Therefore, the research focus of this paper is placed on younger age groups during their formal education as research shows that in the promotion of volunteering it is desirable to place particular emphasis on younger age groups because of their more pessimistic attitudes towards opportunities to promote volunteering (Ledić, 2007; Pološki Vokić et al., 2013).

1.1. Research goal

The primary goal of this research is to explore the development of volunteering during formal education as an opportunity to build and develop skills that are beneficial to future career choices. The development of youth volunteering in the Republic of Croatia is analyzed in the paper. In addition to the analysis of previous research studies, the purpose of the paper is to highlight the benefits of volunteering, and by using a selected case study (*Creative Treasury*), to indicate the need for developing volunteering activities in the field of the creative economy. The case study selected for this paper (i.e., *Creative Treasury*) is a socially beneficial event systematically developed since 2015 by mentoring the members of the academic community. Thus, the paper explores an example of positive practice of a higher education institution (i.e., the Faculty of Economics in Osijek), which encourages younger age groups through various one-year projects built on synergistic volunteer engagement of professors, students and other case study participants.

2. Theoretical starting points for basic research concepts

A theoretical definition of volunteering does not offer a unified interpretation of the term, i.e., it depends on various traditional and cultural circumstances of individual countries. The traditional explanation of volunteering relied on activities related to helping loved ones in the family or community, but in extraordinary circumstances (e.g., wars or natural disasters).

Today's understanding of volunteering is associated with building solidarity and empathy with others.

In the Republic of Croatia, volunteering is defined by legal regulations and interpreted as "an investment of personal time, effort, knowledge and skills out of free will with which services and activities are executed for the well-being of another person or wider public, without existence of any conditions of providing a financial reward or seeking any other material benefit for volunteering accomplished" (Official Gazette 58/07, 22/13). Due to the above, volunteers are not considered professionals, but with proper preparation, education, supervision and control, they can achieve a high level of professionalism. According to Keveždi (2019), an amateur differs from a professional primarily because of his/her sincere interest in work, skills and progress, and mostly not because of financial support.

Unlike other European countries, "in Croatian society, volunteering has not come to fruition as a socially accepted value" (Zrinščak et al., 2012, 44). Ćulum (2008) indicates that in the Republic of Croatia there are no quantitative indicators on the number of volunteers and the economic value of volunteering, that is, there is no institution that systematically monitors volunteering activities. Nevertheless, Ćulum (2008) states that Croatian civil society organizations and international donor organizations have conducted research projects in the field of volunteering related to the frequency of volunteering, types of volunteering activities, as well as the attitude of the public towards volunteering. Although there has been only limited research on this subject in the Republic of Croatia, research in developed and transition countries was focused on volunteering in the late 1980s.

1.2. Youth volunteering at international level

One of the first studies on volunteering and young people (persons between the ages of 15 and 24) was conducted in 1997 in Canada. It showed that a 15% increase in young volunteers was recorded between 1987 and 1997, as well as a rise in student volunteers, as opposed to those who did not study (Jones, 2000). Jones (2000) attributes this phenomenon to increasing university awareness and promoting their volunteering activities. The main reasons why the students under study participated in volunteering activities are of a personal nature. They are related to the development of interpersonal skills, communication skills, leadership and organizational skills, budget management skills as well as various technical skills and knowledge, i.e., all skills they will need for their future employment (Jones, 2000). In addition to developing their own skills, the observed group of students also gives reasons like purposeful assistance to those in need, their beliefs or religious affiliation, exploring their own strengths and weaknesses, and getting to know other volunteers in a friendly atmosphere (Jones, 2000). In the United States, research in the early 1990s indicates that 26% of students participate in various forms of volunteering activities during their studies, but also that women (36%) volunteer more frequently than men (27%) (O'Brien, 1993). Other research highlights that the number of students involved in volunteering is significantly higher, ranging from 32% (CSU, 1989) to as high as 48% (Austin, 1991). O'Brien (1993) further points out that students over 30 are more willing to work for the common good (41%), as opposed to those under 30 (less than 30%). Students working for the common good averaged 5.3 hours each week in 1990 (NPSAS, 1992), and cumulatively approximately 270 volunteering hours per year (CSU, 1989).

In the fall of 1998, a survey was conducted in Los Angeles at the University of California. It included 22,236 students and studied volunteer engagement during their studies (Astin et al., 2000). The results showed that 30% of students participated in some form of organized

assistance within the college, 46% of students participated independently in some form of volunteer engagement and work for the common good, while the remaining 24% did not participate in any similar activity in any way (Astin et al., 2000). The same authors further state that participation in volunteer engagement showed significant positive effects on all their measurement and evaluation results (academic performance, writing and communication skills, critical thinking, values related to commitment and promotion of racial understanding, self-assessment, leadership, interpersonal skills, career choice and post-college plans).

Research in the new millennium highlights that the number of students involved in volunteering activities is growing significantly. Carlo et al. (2005) point out that almost 90% of students volunteer at some point in their student life. Quantitative data indicate that 30.2% of students volunteer while studying in the USA (CNCS, 2006), and according to data from Australia, these figures account for approximately 40% of the student population (McCabe et al., 2007).

In 2001, Devney published a manual designed to organize specialized events as well as to direct and guide volunteers, emphasizing the importance of treating volunteers properly when it comes to fostering their motivation for volunteering. Priority should be given to communication with volunteers in a considerate and patient manner, without orders and demands. Devney (2001) states that in the organization of large-scale events, it is necessary to rotate volunteers and divide their work into smaller portions over a few days, that is, not to expect their full-day engagement for the entire duration of the event. In this step, a volunteer coordinator who is in charge of assigning tasks and delegating work to volunteers plays a major role. It should always be borne in mind that volunteers are a free workforce; thus, it is necessary to keep the activities of each volunteer at an appropriate level and maintain their motivation (Devney, 2001).

In their research project, Esmond and Dunlop (2004, 7-8) developed an advanced and supplemented volunteer motivation scale that includes the following items: *values* (behavior in accordance with one's beliefs), *reciprocity* (a belief that "what goes around comes around"), *recognition* (a belief that a volunteer will be recognised for their skills and contribution), *understanding* (a belief that a volunteer will better understand other people around them), *self-esteem* (a belief that a volunteer will increase their own feelings of self-worth and self-esteem), *reactivity* (a belief that a volunteer will solve their own problems and concerns much easier), *sociability* (volunteering with their friends and loved ones), *protection* (a belief that negative feelings about themselves will be reduced), *social interaction* (building social networks and establishing contacts), and *career development* (a belief that volunteering will help them find a job easier).

A more recent survey conducted in 2011 examined 158 psychology students and 150 economics students at Vrije University Amsterdam, and found that there were statistically significant differences in their academic background in terms of their motivation and attitude towards volunteering, which are related to the development of traits such as altruistic behavior, selfishness, and competitiveness (Van Lange et al., 2011).

Two years later, a study (n = 235) was conducted at the Australian Victoria University to investigate views of student volunteers on volunteering, past volunteer experiences, and reasons why they (do not) decide to volunteer (Hyde and Knowles, 2013). The study identified a high percentage of students who stated that they lacked necessary resources such as time, financial support and awareness of potential volunteering opportunities, i.e., they believed that participating in unpaid volunteering activities performed on their own time requires a significant time investment and long-term commitment (Hyde and Knowles, 2013). Motivation of younger age groups to volunteer involves helping others and satisfaction that comes from helping others (Auld, 2004), learning, developing new skills, or networking for career

development (Smith et al., 2010). The reasons why students do not volunteer relate primarily to finding paid employment or study commitments, but also a lack of information about the ways how to get involved in volunteering activities (Auld, 2004). Auld (2004) points out that most student volunteering activities refer to sport and recreation, while volunteering in culture (i.e., festivals, theaters) is not overly desirable. As to volunteer time, 67% of the student population stated that they volunteer *4 hours or less* per week (Auld, 2004), which is significantly higher than the figure obtained in the 2000 survey, when it was noted that the total average number of hours volunteered ranged between 1.1 and 1.4 hours per week for ages 18-24 (ABS, 2000).

2.2. Youth volunteering in the Republic of Croatia

There has been little research on volunteering in the Republic of Croatia, and this chapter seeks to structurally present current research in Croatian volunteering practice. Emphasis was placed on younger age groups, which in turn reduced further the number of relevant studies.

In 2012, a study of culture was published (Zrinščak et al., 2012) that was conducted in the 2006-2007 academic year on a sample of 600 students from the University of Zagreb, the Technical Polytechnic of Zagreb and the College of Social Sciences of Zagreb. A total of 13 countries participated in the survey to collect data on various aspects of volunteering. The results show that Croatian students, together with Japanese students, are placed at the bottom of the countries under study that are prone to volunteering, and an insight into their views shows that youth volunteering is still underdeveloped, that is, young people volunteer irregularly and mostly informally. Youth volunteering is mostly related to city districts, old people's homes, nursing homes, and homeless shelters, and least related to sport or cultural organizations. The authors of this study also state that volunteering is not systematically promoted through education, especially colleges and universities, as 72.8% of the students surveyed said that professors had never invited them in their classes to take part in any form of volunteering activities. As the aim of the study was to gain comparative insight into student attitudes, China, India, the USA, Canada, New Zealand, Belgium, Finland, Israel, South Korea, England, the Netherlands, Croatia and Japan were included in the analysis. The results show that most volunteering on a weekly basis was done in Belgium (22.1%) and Canada (21.9%), whereas it was regularly done in the USA (14.6% on a monthly basis). The lowest indicators are related to Japan (69.6%) and Croatia (57.7%), the two countries where the majority of students declared that they do not volunteer. In Croatia, one third of students under study (i.e., 32.8%) stated that they occasionally volunteer, unlike e.g. China, with the figure twice the Croatian average (70.1%). If Croatia were placed into an international comparative context in terms of the frequency of volunteering, volunteering would not be very widespread among students.

When it comes to research into the frequency of volunteering, there are also differences in the types of higher education institutions, given the tendency to volunteer among students attending different types of institutions. According to Zrinščak et al. (2012), social sciences and humanities students volunteer most frequently, while economics and technical sciences students volunteer least. The main reasons why students volunteer refer to their future employment (adding volunteering activities to their résumés, finding a desired job easier), networking that will benefit their careers, and a sense of satisfaction and purpose when volunteering. In addition, close friends who volunteer or encourage volunteering are an important incentive to volunteer. In addition, respondents noted their views on the potential benefits of volunteering, and evaluated the following items as the most important ones: their

own satisfaction, networking, building trust among people, and gaining opportunities to learn new things.

Pološki Vokić et al. (2013) conducted a study on a sample of 255 students. Unlike the 2012 study by Zrinščak et al., which emphasized the international comparative context, the primary objective of this research was to analyze the reasons why graduate students volunteer. The largest number of respondents (33%) said that the most important motive was to *help the needy* and to *better understand others and people who differ from them* (29%). These items confirm that students are primarily encouraged by selfless reasons to volunteer, thus opening up the possibility of becoming better members of the community. Most reasons (*values*, *better understanding*, and *personal development*) are equally present in both genders, but there is a difference in the *social relations* variable. Specifically, this variable was not found relevant by any female student, while 6% of male students said it was an important reason for building a network and establishing contacts.

The last two research studies on attitudes towards volunteering were conducted by Jurina (2015) and Ažić (2016). The research by Jurina (2015) included 121 respondents; however, only 36 students enrolled in graduate study programs (29.75%) were included in the sample. The results indicate that most volunteering experience is possessed by persons aged 20 to 25 years (40.74%) and those in the 26-31 year age (25.93%), while the shares of other respondents are negligible. The survey found that 48.15% of the respondents with volunteering experience felt that they could improve their current abilities and competences, while 41.15% thought that these abilities and competences could be greatly improved. The results show that volunteering helps develop diversity management skills, networking skills, active listening skills, skills aimed at developing and maintaining mutual trust, and communication skills.

Another survey of the attitudes towards volunteering (Ažić, 2016) included 102 students between the ages of 20 and 28. According to the results, 66.7% of students believe that volunteers are more satisfied with themselves than persons who do not volunteer, and 70.6% of students believe that they can overcome their personal problems by engaging in volunteering activities. In addition, the results show that 78.5% of students believe that volunteering is a good way to spend their free time, and 76.5% consider it may contribute to finding employment, which relies on the research described above. Most students believe that social climate in the Republic of Croatia has a negative impact on volunteering primarily because volunteer work is undervalued and not sufficiently promoted.

3. Case Study: Creative Treasury

The research problem refers to the study of the attitudes, motives and impressions of volunteers as the most important driving force behind this great event. The reasons why volunteers (Treasurers) invest their personal free time, effort, knowledge and skills in volunteering are defined in the research draft, and potential gaps in the organization of a major event are identified. For this reason, every year a self-assessment of all participants in the organization is done after the *Creative Treasury* project is completed.

Creative Treasury is defined as a popularization symposium[1] of the creative industry that seeks to highlight the economic importance of the creative industry, but also to encourage both the

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[1] "A popularization symposium is a public event where presenters are all interested stakeholders (amateurs, professionals, scientists and experts), and their presentations are open to the entire community. Unlike other related

academic community to research more and younger age groups to reflect on the importance of the creative industry and its business potential. It is an event that started to take place five years ago and it is held in April every year. It aims to cover a variety of topics across the 12 creative industry sectors in four days. A special feature of the project is the interaction of creative theorists and practitioners, amateurs and professionals, professors, students, high school students and other visitors, which encourages the development of creative and cultural life related habits. *Creative Treasury* is defined by a central or umbrella title that changes year by year and it is taken as the backbone of organizational, visual and promotional activities. A new central topic complements its previous performances organized in a large number of events (workshops, interactive and multimedia lectures, theatrical performances, exhibitions, book presentations, cinema screenings, concerts, round tables, public forums, etc.). New committees are institutionalized according to volunteers registered to volunteer and an analysis of their intentions aimed at developing new skills and competences, thus achieving the basic hypothesis of the project. At the beginning of a one-year project, volunteers (Treasurers[2]) are divided pursuant to the activities needed for the organization. Within the five years of the *Creative Treasury* project, the Program Committee, the Organizing Committee, the Coordinating Committee, the Communication Committee and the Multimedia Team were established. All committees work in a collaborative manner, and their synergistic activities make continuous progress. Before the event itself, a few months are dedicated to intensive preparation and organizational activities, which imply a series of necessary actions for the event to be successfully developed. *Creative Treasury* also established a scientific and research platform since volunteers, exhibitors and visitors gather each year for scientific research. In addition, the evaluations gathered from the participants are primarily used by the organizers to systematically improve program content.

Working with volunteers, i.e., University of Osijek students, is based on developing theoretical and practical insights into the creative industry sectors, as well as current challenges facing the industry in the Republic of Croatia, especially at the local level. Volunteers are trained to work within different aspects of project organization with the main objective of developing their skills within the 12 creative industry sectors, and consequently for their future careers. Together with the organizers, volunteers work months in advance to prepare the event, and throughout the symposium they take care of all aspects necessary for its successful running. Within the framework of working with volunteers, various workshops are organized that contribute to their personal development (e.g., fear of public speaking and how to overcome that fear, how to improve one's presentation skills, etc.).

In the five years of *Creative Treasury*, 370 volunteers have participated in its organization, with more than 20,000 volunteer hours. At the beginning of each academic year, an open call for volunteers is announced, which is then followed by volunteer recruitment and focus on their preferences. For these reasons, the Faculty of Economics in Osijek and *Creative Treasury* were granted the 2016 Volunteer Award in the category of contributing to the development of volunteering in education with 3,281 volunteer hours. Given the success of the previous five events, it can be concluded that *Creative Treasury* is growing year by year, but it also proves to be a socially beneficial event driven by mentoring, volunteering and innovative activities.

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events (congresses, scientific and/or professional symposia, fairs, festivals), neither presenting nor entrance fees are charged in a popularization symposium." (Mijoč et al., 2016, 260).

[2] *Creative Treasury* volunteers call themselves treasurers, which further links their roles to a major event. The *Andizet Institute* website reads: "Treasurers are volunteers who, through their activities, contribute to the organization and content of the *Creative Treasury* and thus help to achieve the goals, missions and visions of this great, free event." (https://www.andizet.hr/andizetski-pojmovnik/, accessed 20 February 2020)

3.1. Research methodology

The data collection instrument is a questionnaire conducted at the beginning of May 2018 and 2019, i.e., shortly after the end of the event. A trained survey team of interviewers ensured complete respondent anonymity and thus greater honesty in their answers. The questionnaire was formulated in online survey software called SurveyGizmo[3], and during 2018 and 2019, 122 responses were collected that met the criteria for further analysis. Due to a large number of open-ended questions, the average time to complete the questionnaire was 27 minutes.

The questionnaire represents a useful data collection method when a researcher is oriented towards a large number of respondents (Horvat, 2011). The evaluation questionnaire used in the survey on volunteer views consists of 45 questions divided into several sets of questions. The first 13 questions are open-ended questions that relate to volunteer impressions of volunteering at the *Creative Treasury* event and volunteering in general. The first set of questions gives relevant insights into volunteer views on the benefits of volunteering for e.g. personal development, making new acquaintances, developing communication skills, creating résumés, and the like. The second part of the questionnaire consists of 11 questions, which deal with a more detailed analysis of the advantages and shortcomings of organizational and volunteering activities at the event. After that, there follows a set of questions called *Tell us*, where honest answers to five open-ended questions are expected. The penultimate part of the questionnaire includes 10 questions referring to socio-demographic characteristics of the respondents. Finally, there are six questions at the end that relate to their future career choices.

The purpose of this research is to examine volunteer satisfaction with the *Creative Treasury* event held in 2018 and 2019, as well as the motivation for and views on volunteering activities and volunteering in general. Respondents were fully acquainted with the whole concept of evaluation, and data were collected after the end of the aforementioned two *Creative Treasury* events.

Based on previous research and the developed research process, three hypotheses of the paper were formulated:

> H1… There is a *gender* difference in volunteer views on *volunteering as a résumé-enhancing activity*.

> H2… There is a correlation referring to volunteer views in relation to the statement that volunteering *increases employment opportunities*, but also *enhances résumés*.

> H3… The measured construct has consistent dimensions.

The hypotheses set were tested by inferential and multivariate statistics, and the conclusions to reject or fail to reject the hypotheses are presented in the Research Results section of this paper.

3.2. Sample description

For research purposes, the target group of respondents are the volunteers who volunteered in the 2018 and 2019 *Creative Treasury* popularization symposium. Appropriate statistical procedures were used for setting the hypotheses, depending on the type of measurement of variables (Horvat and Mijoč, 2018).

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[3] SurveyGizmo is a tool used for creating market research or public opinion on a specific topic by means of an online questionnaire. The tool is available at: https://www.surveygizmo.com/.

Table 1: Sample description

Variable	Categories	n	%	Variable	Categories	n	%
Gender	Male	29	24.00	**Field of study**	None, undergraduate study program, first year	15	12.90
	Female	92	76.00		Economic Policy and Regional Development	2	1.70
	Total	121	100.00		Financial Management	16	13.80
Standard of living	Below the average in the Republic of Croatia	5	4.,20		Marketing	29	25.00
	At the average level in the Republic of Croatia	86	72.30		Management	14	12.10
	Above the average in the Republic of Croatia	28	23.50		Entrepreneurial Management and Entrepreneurship	17	14.70
	Total	119	100.00		Business Informatics	8	6.90
Study program	Undergraduate, first year of study	17	14.40		Trade and Logistics	6	5.20
	Undergraduate, second year of study	31	26.30		None, I study at another faculty	9	7.80
	Undergraduate, third year of study	28	23.70		Total	116	100.00
	Graduate, first year of study	26	22.00	**Age (valid answers n = 119)**	The youngest		19
	Graduate, second year of study	16	13.60		The oldest		53
	Total	118	100.00		Arithmetic mean		23.40

Source: The authors

For the purpose of further testing, 76% of the female and 24% of the male respondents were surveyed. The average age of the respondents was 23. Most students (92.2%) attended the Faculty of Economics in Osijek. When it comes to dividing the respondents by type of the study program and year of study they were enrolled in, there were 26.3% of second-year and 23.7% of third-year undergraduate students. In general, almost 65% of students involved in the study were undergraduate students. Students who mostly opt to participate in volunteering activities study Marketing (25%) and Entrepreneurial Management and Entrepreneurship (14.7%). Based on questionnaire analysis, 72.3% of respondents stated that the standard of living in their household was at the average level in the Republic of Croatia.

4. Research results

The first hypothesis was tested by an independent samples t-test procedure, where there are differences between the arithmetic means of two groups (the first group are men, and the second group are women). The variable *Volunteering is a résumé-enhancing activity* measured on a Likert scale (ranging from 1 - strongly disagree to 5 - strongly agree) and the dichotomous nominal variable *Gender* (male/female) were selected to test the hypotheses. According to Levene's test for the equality of variancee, one can conclude that the assumption of homogeneity of variance is not violated. Based upon the independent samples t-test results, the null hypothesis is rejected (t = -3.384, df = 119, p < 0.05), and it can be concluded that men and women differ significantly in their views that volunteering is a résumé-enhancing activity. A statistically significant difference was found in the arithmetic mean of male volunteers (arithmetic mean = 4.28, standard deviation = 0.649) and female volunteers (arithmetic mean = 4.66, standard deviation = 0.498) in their assessment of volunteering as a résumé-enhancing activity. Given that female volunteers are more inclined to believe that volunteering is a résumé-enhancing activity, the first hypothesis of this research is not rejected.

The second hypothesis studies the level of correlation between two variables. Both analyzed variables were measured by using a 5-point Likert scale (ranging from 1 - strongly disagree to 5 - strongly agree). At the 1% level of significance based on Pearson correlation analysis, sufficient evidence was presented to reject the null hypothesis stating that there was no correlation between volunteer views referring to the two observed variables. A strong positive correlation (r = 0.539, p < 0.001) was found between the volunteer views related variables in relation to the statement that volunteering increases employment opportunities, but also enhances résumés. In other words, respondents believe that volunteering aimed at enhancing résumés is associated with increased employment opportunities so that the second hypothesis of this paper is not rejected either.

Exploratory factor analysis is used to analyze the third hypothesis. The dimensions of research are isolated by means of exploratory factor analysis, according to which respondents are described. Groups of items *v9* (benefits of volunteering) containing six items, and groups of items *v13* (developmentof volunteering) containing five items are selected for exploratory factor analysis. Exploratory factor analysis is expected to classify the items into two dimensions. The appropriateness of factor analysis for the 11 observed items was evaluated based on the KMO test (0.816) and Bartlett's test (χ^2 = 472.866, df = 55, p < 0.001). The table of rotated factors (Varimax with Kaiser normalization) indicates item distribution by two dimensions.

Table 2: Factor analysis and the table of rotated factors[a]

Volunteering is:	Component	
	Networking	**Building skills and personal development**
a great networking opportunity	0.844	
a way to make important acquaintances	0.821	
opening the door to opportunities	0.71	
helping people	0.639	
making new acquaintances	0.56	

Volunteering is:	Component	
	Networking	**Building skills and personal development**
gaining practical knowledge		0.878
personal development		0.783
creating a résumé		0.634
development of creativity	0.382	0.619
development of communication skills	0.419	0.547
free time well spent		0.503
Dimensions		
Arithmetic mean	4.637	4.480
Standard deviation	2.142	2.481

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

Source: The authors

Two isolated dimensions classified the items according to:

Dimension 1: Building skills and personal development

- o Variance explained: 28.103%.

Dimension 2: Networking

- o Variance explained: 26.511% (total variance explained: 54.614%).

The psychometric properties of the factors were observed for the isolated dimensions (Table 3).

Table 3: Measuring the internal consistency of each dimension (factor)

Factors		Networking	Building skills and personal development
Number of items		5	6
Cronbach's alpha		0.793	0.788
Standardized Cronbach's alpha		0.802	0.796
Sum of items		23.18	22.40
Average inter-item correlation		0.448	0.439
Average item-measured construct correlation		0.5866	0.5828
Measured construct	Mean	4.637	4.480
	Standard deviation	2.142	2.481

Source: The authors

The reliability coefficients of both identified dimensions are extremely high (0.793 and 0.788) and it is considered that these items successfully measure *Networking* (Dimension 1) and

Building skills and personal development (Dimension 2). The highest correlation of an item to the measured construct for Factor 1 and Factor 2 was recorded on the item *A great networking opportunity* (0.844) and the item *Gaining practical knowledge* (0.878), respectively, but all other items also exceed the recommended limit of acceptability of this reliability measure. Inter-item correlation is also acceptable because all values exceed a 0.5 correlation.

As to numerical variables measured by the interval or ratio scale using the 5-point Likert scale (ranging from 1 - *strongly disagree* to 5 - *strongly agree*), their mean values and the associated standard deviations are recorded and interpreted (Table 4).

Table 4: Volunteer views - Descriptive statistics

Volunteering is beneficial to:	n	Arithmetic mean	Standard deviation
making new acquaintances	122	4.84	.393
development of communication skills	120	4.72	.484
creating a résumé	122	4.58	.601
personal development	122	4.54	.563
development of creativity	122	4.33	.828
gaining practical knowledge	120	4.18	.837
Volunteering is:			
a great networking opportunity	122	4.75	.507
a way to make important acquaintances	121	4.60	.570
helping people	121	4.60	.664
opening the door to opportunities	122	4.57	.589
free time well spent	122	4.41	.701

Source: The authors

The respondents believe that volunteering can have an impact on different aspects of life. The *Making new acquaintances* variable resulted in the highest average grade of 4.84, and the average ratings of the *Development of communication skills* variable (4.72) and the *Creating a résumé* variable (4.58) emphasize the importance of volunteering for future career choices. Volunteers gave the highest average rating (4.75) to the variable *A good networking opportunity*, and a slightly lower rating to variables *A way to make important acquaintances* and *Helping people* (4.60), stating that volunteering is a way to get to know each other and a way to help others.

Based on the analysis, no research hypothesis set up in this research was rejected. In other words, it was found that there was a statistically significant difference in volunteer evaluation with respect to gender in relation to volunteering as a résumé-enhancing activity (higher ratings by female volunteers). A statistically significant correlation was also found in the assessment of volunteer attitudes, implying that volunteering *increases employment opportunities*, but also *enhances résumés*. By testing the third hypothesis, it was found that the construct has two latent dimensions (i.e., *networking* - the first dimension/the first factor, and *building skills and personal development* - the second dimension/the second factor) of acceptable psychometric properties, which opens the possibility of its future application in related research.

5. Concluding considerations

Volunteering in the Republic of Croatia, especially among younger age groups, is currently in the process of empowerment, both in terms of higher education and volunteering in general. A comparative survey on the frequency of volunteering of the student population shows that half (i.e., 57.7%) of Croatian students declared that they do not volunteer. A comparative study of 13 countries (Zrinščak et al., 2012) showed that Croatian students are at the bottom of the list of countries under study, and their views suggest that volunteering in the Republic of Croatia has not been sufficiently developed and popularized among students. In order to develop and implement a volunteering strategy in the Republic of Croatia, it is important to investigate student motives for and views on volunteering and the reasons why students get involved in volunteering activities.

In this paper, volunteering is linked to the increasing development of new sectors in the field of the creative industry in the 21st century, and the research examined the views of younger age groups on their participation in volunteering activities in organizations within the creative industry. A popularization symposium of the creative industry named *Creative Treasury*, which has brought together various stakeholders-volunteers (students, scientists and teachers, heterogeneous creative persons, and public and civil sector representatives) since 2015, has been chosen as a case study.

This paper confirms the hypothesis that student participation in volunteering activities during their formal education is a form of learning that brings together theoretical and practical knowledge. The paper can be used as a training ground for creating a strategy for involving young people in volunteering activities based upon the primary motives observed and their general volunteer views, but it can also create opportunities for building and developing skills that are used as fundamental competitive advantage in the labor market. This paper provides a basis for further research into youth volunteering and indicators that are important for attracting young people to volunteer.

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A scientific paper

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ANALYSING INFLUENCES ON SERVICE QUALITY IN HIGHER EDUCATIONAL INSTITUTIONS: ROLE OF STUDENTS' INTRINSIC AND EXTRINSIC MOTIVATORS

ABSTRACT

Higher educational institutions (hereinafter HEI) to be competitive on the market should implement market orientation principles. This means that to obtain adequate information from the market, HEIs should analyse different influences on students' decision-making process while deciding about their future education. Hence, purpose of this paper is to analyse intrinsic and extrinsic motivators that shape students' expected and perceived service quality of HEI.
Paper tests Chapman model (1981) and analyses different students' motivators and their relationship with expected as well as with perceived service quality. Intrinsic motivators are approached as socio-economic status, results of admission procedures, prior student experience with HEI and educational aims. Extrinsic motivators are explored as significant individuals, HEI's communication and HEI's characteristics. Research focuses on decision-making phase where students are selecting HEI to continue their education. Service quality is based on Parasuraman, Zeithaml and Berry (1988) SERVQUAL scale. Research was conducted on 250 students enrolled in 1st year of study at public HEI in Croatia.
Results point out that students' extrinsic motivators are positively related to both expected and perceived service quality. While students' intrinsic motivators have mixed relationships with expected and perceived service quality. Prior student experience with HEI is positively related to expected service quality. Education of mother, family income and prior experience with HEI are positively related to perceived service quality. While results of admission procedures are negatively related to perceived service quality. Paper offers implications for HEIs policy makers, marketing and communication managers identifying motivators that are influencing positively or negatively students' decision-making while selecting HEI to continue their educational process.

Key words: *service quality, students' motivators, higher educational institutions, Croatia.*

1. Introduction

The decision-making process of choosing the higher education institution (hereinafter, HEI) is a complex process in which future students go through. In order that HEI successfully answer the needs of the students, it is important to analyse students decision-making process of choosing the HEI. As well as all to analyse other influences that shape their decision-making process. The number of phases and characteristics of each individual phase through which students go, different authors define in various ways. Brown, Varley and Pal (2009) warn that the process of selecting the HEI depends, as is the case in any product or service selection, on the degree of the motivation in the process of searching. That is why there are potential students that have low level of motivation to find the solution and decide which HEI where they will enrol, they are passive and they feel obligated to make a decision, and the process itself does not mean a lot to them. On the other hand, there are students who are highly motivated, and they look for ways to remove the risk of making the wrong decision, also they are extremely involved in in the process of looking for information and making a decision. The process itself represents a complex life decision which is influenced by numerous factors.

This means that to obtain adequate information from the market, from future students, HEIs should analyse different influences on students' decision-making process while deciding about their future education. Various authors in different scientific fields (psychology, sociology, economy) emphasise that a student a process of choosing a HEI perceives as investing in the future. Which expectations make him to choose the HEI, and which societal role he acquires with it, etc. (Eidimtas and Juceviciene, 2014). Consumers can invest more effort and time in making their decisions, and the process itself again varies depending on the individual and current environment.

Also, different authors (eg. Mazzarol, Soutar and Thein, 2000; Sia, 2011; Furukawa, 2011) stress different motives that influence students' decision-making process upon selecting HEI. Chapman (1981) classifies these motives as extrinsic and intrinsic. Based on different motives students will behave differently and this will influence their decision-making process. Hence, purpose of this paper is to analyse intrinsic and extrinsic motivators that shape students expected and perceived service quality of HEI.

Paper is structured as follows. After introduction, a Literature review is presented and followed with methodology part. Research results is the next chapter. Paper ends with conclusion where managerial implications for HEIs are provided.

2. Literature review

2.1. Phases in the decision-making process of choosing a higher education institution

To better understand behavioural models of students while they are going through the decision-making process about choosing the HEIs, it is important to get familiar with possible phases and motivators which affect them. According to Chapman (1986) phases through which the students go through while selecting the HEIs, are as follows: (1) phase- before exploration phase, (2) phase- exploration phase, (3) phase- decision of applying to a HEI, (4) phase- making a decision of choosing a HEI, (5) phase- enrolment. Engel, Blackwell, and Miniard (1995), Schiffman and Kanuk (2007), Kotler and Keller (2009) and Perreault and McCarthy (2005), also differentiate between five different phases which future student experiences, but are differently distributed. Authors consider the first phase to be the realisation of problem, then

search for information, followed by analysing the alternatives, the choice itself, and post-selection and evaluation of decision. Hanson and Litten (1989) differentiate three phases: decision- making phase about enrolling into HEI, research phase of HEI, and phase of application and enrolment into the selected HEI.

No matter the fact that different authors divide the process into different number of phases through which students go through, it is of utmost importance to take into account of the shortness of the process of selection of the students while coming up with marketing communication of the HEI. Furthermore, Moogan, Baroon and Harris (1999) show that the selection process with the majority of students lasts about four months (from realising the need to realisation, i.e. the enrolment into HEI), which is a particularly short period of time for such a life altering decision. However, Obermeit (2012) shows that the duration of each phase, as well as the moment when it starts greatly depends on cultural phenomena. So, in US the predisposition phase as the first phase begins at the end of elementary school, while in Germany it begins two years before a decision is made. However, other authors believe that in most cultures this process begins at the last year of high school, right before enrolment into a HEI (Hossler, Braxton and Coopersmith, 1989).

2.2. Motives that affect students during the process of selection of higher education institution

Authors emphasize the difference of motives which affect their choice of the preference HEI. Shen (2004) states that there are three the most important characteristics for selection of the HEI: attractive campus, friendly atmosphere and safety. And some less important characteristics are: HEI tuition fee, size and distance of the HEI, i.e. nearness of home. Sia (2011) emphasises that the most important factors in choosing the HEI are: programme (the span of the study levels, availability, flexibility of going to another level, etc.); expenses (scholarships, overall cost, payment options, etc.); location (ideal place, strategic position, practicality and availability, size and attractiveness of the campus) and highly educated personnel (advice from professors, staff or teachers, psychologists, and advisors). And less important factors are the opinions of friends and colleagues, as well visiting the campus.

Eidimtas and Juceviciene (2014) concluded that all the factors which influence decision-making about HEI can be put into the following categories: educational factors in the family and educational factors in the school (teacher's recommendations and career advisers); information factors (open days, exhibitions, mass media); financial factors (costs of higher education, career) and other factors (grades, personal skills and demographic characteristics). There are differences when private HEI are considered. That is to say, Yaacob, Osman and Bachok (2014) argument that parents, as those who finance higher education (hereinafter, HE), often have significant influence on making a decision when selecting private HEI.

According to Furukawa (2011) there are five groups of variables and a stream of factors for which the author believes that they determine the behaviour of future students. These factors are family, peers and friends, institutional characteristics, institutional communication and matching with institutional goals and core values. Telcs et al. (2015) divide four different groups of variables which they consider important in the process of selecting HEI like student background and location, family background and institutional factors. It is important to mention that Burdett (2013) differs among two types of approach when analysing variables which model the selection of the HEI. First one is traditional /social approach and it focuses on the student

and the other one is econometric approach which monitors costs and benefits. As explained, factors that influence the decision-making process are overlapping between different authors.

According to research by Okerson (2016) a big role in the process of selecting the HEI has a visit to the campus. In his research Okerson (2016) states that Chapman's (1981) model identified that the most important decisions which refer to the student background (family, demographics, financial possibilities and other personal factors). While Hansen and Litten (1989), and Hossler and Gallagher (1987) incorporated, besides the background, also outside factors such as location, expense, academic quality and the general feeling while visiting the campus. To this research of Okerson, adds Vossensteyn's (2005) model that is built on personal attributes, student characteristics, high school characteristics, environment, tuition fee, media influence, university's activities and other characteristics.

2.3. Chapman's model of higher education institution selection

Chapman (1981) developed a model of HEI selection, which includes different influences that can model future student's behaviour in the phase of selection. He differentiates intrinsic characteristics of students and extrinsic influences which shape student's expectations of the HEI. Intrinsic characteristics are determined by socio-economic status, admittance exam results, educational aspirations of the student and high school experience. Besides these motivators, students' expectations are influenced by extrinsic influences that refer to important individuals from students' environment, sources of communication of the HEI and characteristics of the HEI itself.

In previous research (Rowan-Kenyon, Bell and Perna, 2008; Moogan, Baroon and Harris, 1999; Obermeit, 2012) identified that few individuals can influence the future students' choice of the HEIs and those are: parents, peers, teachers, advisers. HEIs sources of communication indicates ways in which potential students could receive information from traditional marketing sources (Grönroos, 1984). Sultan and Wong (2013) also discuss about their significance in the process of selection of the HEI. Possible sources of information about HEI (Briggs and Wilson, 2007; Obermeit, 2012) are advertising, catalogues, flyers, visiting the campus, recruitment/ presentation, HEI web pages, social media, open days, festivals and so on. Prior experience in the context of HE includes prior educational experience of the student in high school, prior experience of any type of education in this or any other educational institution, and prior direct or electronic correspondence with the staff of the chosen HEI (Sultan, Wong, 2013). Expectations of students are also influenced by the characteristics of the HEI, such as scholarships and grants, location of the contents and the availability of the different educational programmes (Chapman, 1981).

2.4. Perceived quality of higher educational institutions

HEIs need to secure corresponding level of quality for its students, if they want to be competitive on the educational market. Quality is defined as 'fitness for purpose' and quality assurance is defined as 'those systems, procedures, processes and actions intended to lead to the achievement, maintenance, monitoring and enhancement of quality' (Woodhouse, 1998). The undisputable is a need for and relevance of different tools that measure perceived level of quality which students experience while studying at their chosen HEI.

Perceived service quality is dominantly measured with SERQUAL (Parasuraman, Zeithaml and Berry, 1988), also in HEI context (e.g. Barnes, 2007; Leko Šimić and Čarapić, 2008; Dlačić,

Arslanagić, Kadić-Maglajić, Raspor, Marković, 2014). However, some other measures as SERVPERF and HEdPERF (Brochado, 2009) are proven to have good measurement characteristics. Service quality through SERVEQUAL measurement includes five dimensions: tangibles, reliability, responsiveness, assurance, and empathy; and consists of two (Parasuraman, Berry and Zeithaml, 1985; Parasuraman, Zeithaml, Berry, 1988) sections expected and perceived service. Service quality is analysed by observing the gap between these two dimensions. Additionally, Arslanagić- Kaladžić, Kadić- Maglajlić, and Čičić (2014) point out that managing quality and related concepts cannot be simply translated from other services directly to HE. As HEI have their specifics in different staff, administrative and faculty, that serve customers i.e. students.

Interconnections of different variables with perceived level of quality was analysed by various authors. Research points out that intrinsic characteristics of students can relate to perceived level of quality (Rahman and Uddin, 2009). Furthermore, the connection between parents and other influential individuals from students' environment, and the perceived level of quality, has been established (Torquati et al., 2011). Moreover, through numerous research the connection between expense and perceived level of quality was also established (Sumaedi, Bakti and Matesari, 2011).

3. Conceptual model and research methodology

3.1. Conceptual model

According to the previous research (Chapman, 1981), intrinsic and extrinsic characteristics of students are positively related with the students' expectations when enrolling specific HEI. Expectations are one of the main variables of determining the perceived level of quality, based on the previous theoretical background, the hypothesis is as following:

H1: Intrinsic motivators of students are positively related with perceived service quality.
H1a: Socio-economic status is positively related with perceived service quality.
H1b: Educational aspirations of students are positively related with perceived service quality.
H1c: The results of admissions exam are positively related with perceived service quality.
H1d: Student prior experience is positively related with perceived service quality.

Since the expectations for the received service quality on the chosen HEI are integral part of determining the perceived quality level, based on that the hypothesis is as following:
H2: Extrinsic motivators are positively related with perceived service quality.
H2a: Influential individuals are positively related with perceived service quality.
H2b: Communication of the HEI is positively related with perceived service quality.
H2c: Characteristics of the HEI are positively related with perceived service quality.

Based on prior research, the following conceptual model was created (Figure 1), which is tested through empirical research.

Figure 1: Proposed conceptual model
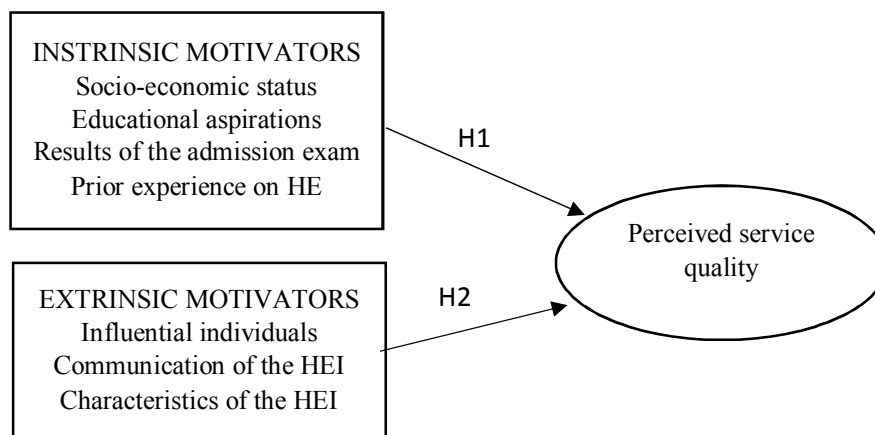
3.2. Research methodology

For testing proposed hypotheses and the conceptual model, scales from previous research from HEI context were used. *Intrinsic motivators* are taken from Chapman (1981) and are adjusted to the context of the HEI. The following variables are included: socio-economic status, results of the admission exam, educational aspiration and overall experience with HEI. Socio-economic and educational aspiration variables were measured with scales taken from Walpole (2003), while the results of the admission exam according to Chapman (1981) understands result achieved on the admissions exam (adjusted to today's requisites- state matura exam). Overall experience is measured with a scale taken from Sultan and Wong (2013), and it includes: high school grades, previous communication with the HEI and previous experience on HE.

Extrinsic characteristics according to Chapman (1981) includes the following variables: influential individuals, HEI communication and characteristics of the HEI. Influential individuals from student's environment was measured with scales taken from Rowan-Kenyon, Bell and Perna (2008), Moogan, Baroon and Harris (1999) and Obermeit (2012). HEI communication which includes information acquired from online and offline environment, was measured with scales taken from Briggs and Wilson (2007) and Obermeit (2012). Characteristics of the HEI was measured according to Chapman (1981). *Perceived service quality* was measured with SEVQUAL scale, originally created by Parasuraman, Zeithaml and Berry (1988), adjusted for the requirements of the research by Rodić Lukić and Lukić (2018) which means twenty-nine questions divided into five categories, and which refer to measuring the student's expectations before enrolling into HEI and student's received service from HEI. Student's perceived service quality of the HEI was computed by comparing student expectations and received service of the HEI. All variables used a 7- stage Likert scale. Answers were anchored at 1- Totally irrelevant to 7- Totally relevant.

Research was conducted online using Limesurvey platform during January 2019 on a public HEI with economic and business background in Republic of Croatia. The results were processed with IBM SPSS 23 programme. The results were analysed with using analysis of reliability with Cronbach alpha and for the correlation analysis Spearman's coefficient.

4. Research results

4.1. Research sample

Research sample is consisted of first year students of undergraduate university professional programme of HEI with economics and business background. Sample is comprised of 250 respondents. As from the 250 respondents not all questionnaires were complete, just 216 respondents were used in further analysis. Hence, 216 respondents form final research sample. From the research sample 74% of students were women. Majority of respondents answered that their mothers' occupation is employee in a company, while 13% have unemployed mothers, and 5,5% state that their mothers work on managerial functions. Similar situation is also found with employed fathers, where there is the biggest percentage of fathers are employed in a company (49%), then self-employed fathers (15,7%) and retirees (12,5%).

4.2. Research results analysis

Internal and external motivators are coded as ordinal variables. Expected service quality was gained as composite scale of variables: tangibility, reliability, responsibility, safety, and empathy. So, values are interval variable. As a starting point of the data analysis an internal consistency of the scale, Cronbach alpha, was calculated. Also, type of distribution was tested which confirmed that the Spearman coefficient should be used in the analysis.

Comparison was made between expected and received service quality, in order to identify the perceived service quality. For the analysis a comparison of arithmetic mean of the variables of tangibility, reliability, responsibility, safety and empathy was used (Table 1).

Table 1: Comparison of expected and received service quality

Dimension of quality	Expected service quality			Received service quality		
	Mean	Standard deviation	Cronbach Alpha	Mean	Standard deviation	Cronbach Alpha
Tangibility	5.8113	0.86829	0.817	5.5545	0.95160	0.881
Reliability	6.0914	0.96931	0.817	5.5312	1.07962	0.806
Responsibility	6.0193	1.00220	0.925	5.7045	1.09035	0.937
Safety	6.0130	1.00112	0.868	6.0130	1.00112	0.912
Empathy	5.5620	0.96190	0.794	5.5620	0.96190	0.852

Source: authors

Research analysis was continued with comparison of relations between socio-economic status with the service quality expectations from the HEI, where a correlation analysis was done (see Table 2). Research showed a positive correlation with all variables besides the relationship of expected service quality and family income.

Table 2: Correlation of the expected service quality of the HEI with socio-economic status

	Expected service quality	Mother's education	Father's education	Family income
Mother's education	-0.206**	1.000		
Father's education	-0.175*	0.553**	1.000	
Family income	-0.030	0.357**	0.347**	1.000

Note: **. Correlation is significant at the 0.01 level (2-tailed); *. Correlation is significant at the 0.05 level (2-tailed).

Source: authors

Next, the relation of students' educational aspirations and the results of the admissions exam in regard to the expected service quality that the student has from the HEI was tested. Furthermore, it confirmed that there does not exists a statistically significant positive correlation between educational plans and the end goal of education such as aspiration to finish undergraduate, graduate, post-graduate or doctoral studies. Also, results show no statistically significant correlation between the results of admissions exam with expected service quality that the student has from the HEI (Table 3).

Table 3: Correlation of the expected service quality of the HEI with educational plans

	Expected service quality
Educational plans	0.027
Admissions exam results	0.075

Note: **. Correlation is significant at the 0.01 level (2-tailed); *. Correlation is significant at the 0.05 level (2-tailed).

Source: authors

Analysis was continued with testing the correlation of student's expected service quality of the HEI with student's previous experience from the HEI. It was found out that there is statistically significant positive correlation between analysed variables (Table 4). Previous experience with HEI included: high school experience, higher education experience from this HEI or communication with the HEI (mail inquiries…).

Table 4: Correlation of the expected service quality of the HEI with previous experience with the HEI

	Expected service quality	High school experience	Previous HE experiences	Communication experience with this HEI
High school experience	0.277**	1.000		
Previous HE experiences	0.247**	0.802**	1.000	
Communication experience with this HEI	0.243**	0.765**	0.775**	1.000

Note: **. Correlation is significant at the 0.01 level (2-tailed); *. Correlation is significant at the 0.05 level (2-tailed).

Source: authors

Analysis was continued with testing relationship of intrinsic motivators, i.e. influential individuals with the expected service quality which student has from the HEI (Table 5). Results showed that there is a statistically significant positive correlation between influential individuals with the expected service quality from the HEI in the case of parents and peers. The most significant influence is the peer influence. While measuring relationship between teachers and advisors there is no statistically significant correlation with the expected service quality from the HEI.

Table 5: Correlation of the expected service quality of the HEI with influential individuals

	Expected service quality	Parents	Peers	Teachers	Advisors
Parents	0.137*	1.000			
Peers	0.159*	0.820**	1.000		
Teachers	0.086	0.799**	0.882**	1.000	
Advisors	0.063	0.768**	0.820**	0.870**	1.000

Note: **. Correlation is significant at the 0.01 level (2-tailed); *. Correlation is significant at the 0.05 level (2-tailed).

Source: authors

Next, the correlation between communication of the HEI with the expected service quality which student has from HEI (Table 6) was done. Research showed a statistically significant positive correlation between some variables of the communication of the HEI with the expected service quality. The statistically significant correlation is noted between expected service quality of HEI and information from 'Postani student'[1] web pages, online communication with the HEI through social media and institutional web pages, and also visits made to the institution during HEI's Open days.

Table 6: Correlation of the expected service quality of the HEI with communication of the HEI

	Expected service quality
Information from catalogue, flyers, and brochures	0.091
Experience from visiting the campus or HEI	0.121
Recruitment by HEI employees	0.071
Information from HEI web pages	0.146*
Information from social media	0.182**
Information from mass media	0.114
Visiting Open days of the HEI	0.145*
Information from college review	0.134*
Information from 'Postani student' web page	0.259**
Information from unbiased web pages	0.111

Note: **. Correlation is significant at the 0.01 level (2-tailed); *. Correlation is significant at the 0.05 level (2-tailed).

Source: authors

When the characteristics of the HEI were tested (Table 7) and their relationship with the expected service quality, research showed a statistically significant level of correlation of all variables which measured characteristics of the HEI. The highest correlation is noted between the availability of HEI's courses and expected service quality.

Table 7: Correlation of the expected service quality of the HEI with characteristics of the HEI

	Expected service quality	Cost of tuition and overall cost of studying	Location of HEI	Availability of HEI courses
Cost of tuition and overall cost of studying	0.163*	1.000		
Location of HEI	0.145*	0.499**	1.000	
Availability of HEI courses	0.266**	0.215**	0.346**	1.000

Note: **. Correlation is significant at the 0.01 level (2-tailed); *. Correlation is significant at the 0.05 level (2-tailed).

Source: authors

After analysis of intrinsic and extrinsic motivators with expected service quality from the HEI, the analysis continued with testing the proposed hypotheses.

H1: Intrinsic motivators of students are positively related with perceived quality level.

For the purpose of testing the hypothesis H1, firstly correlation analysis between socio-economic status and student perceived service quality of the HEI was done (Table 8). Research

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[1] An online application that coordinates applications to HEIs and helps with online enrolment.

showed that statistically significant positive correlation is noted with all variables besides with correlation between perceived service quality and finished father's level of the education.

Table 8: Correlation of the perceived service quality of the HEI with socio-economic status

	Perceived service quality	Family income	Mother's education	Father's education
Family income	0.158*	1.000		
Mother's education	0.158*	0.357**	1.000	
Father's education	0.062	0.347**	0.553**	1.000

Note: **. Correlation is significant at the 0.01 level (2-tailed); *. Correlation is significant at the 0.05 level (2-tailed).

Source: authors

Afterwards, the correlation between the perceived service quality and the results of the admissions exam and educational plans was done. Results indicate that correlation between admission exam and service quality was statistically significant but negative which means that if the result of the admission exam is high, students will show lower level of perceived service quality. The correlation between perceived service quality and educational plans was not statistically significant (Table 9).

Table 9: Correlation of the perceived service quality of the HEI with results of the admission exam and educational plans

	Perceived service quality
Admission exam	-0.134*
Educational plans	-0.028

Note: **. Correlation is significant at the 0.01 level (2-tailed); *. Correlation is significant at the 0.05 level (2-tailed).

Source: authors

The analysis of the correlation of student's previous experience with the HEI with the perceived service quality of the HEI, showed that there is a statistically significant positive correlation between all mentioned variables (Table 10).

Table 10: Correlation of the perceived service quality of the HEI with previous experience with HEI

	Perceived service quality	High school experience	Previous HE experiences	Communication experience with this HEI
High school experience	0.274**	1.000		
Previous HE experiences	0.274**	0.802**	1.000	
Communication experience with this HEI	0.218**	0.765**	0.775**	1.000

Note: **. Correlation is significant at the 0.01 level (2-tailed); *. Correlation is significant at the 0.05 level (2-tailed).

Source: authors

H2: Extrinsic motivators are positively related with perceived quality level.

In the analysis of the relation between perceived service quality and influential individuals (Table 11), a statistically significant positive correlation with parents, peers, but also teachers and advisors, was found.

Table 11: *Correlation of the perceived service quality of the HEI with influential individuals*

	Perceived service quality	Parents	Peers	Teachers	Advisors
Parents	0.245**	1.000			
Peers	0.210**	0.820**	1.000		
Teachers	0.226**	0.799**	0.882**	1.000	
Advisors	0.213**	0.768**	0.820**	0.870**	1.000

Note: **. Correlation is significant at the 0.01 level (2-tailed); *. Correlation is significant at the 0.05 level (2-tailed).

Source: authors

Furthermore, the relation between communication as extrinsic motivator with perceived service quality of the HEI was tested. Between all elements of communication and perceived service quality, a statistically significant positive correlation was found (Table 12).

Table 12: Correlation of the perceived service quality of the HEI with communication of the HEI

	Perceived service quality
Information from catalogue, flyers, and brochures	0.200**
Experience from visiting campus or HEI	0.270**
Recruitment by HEI employees	0.233**
Information from web pages of the HEI	0.236**
Information social media of the HEI	0.211**
Information from mass media	0.203**
Visiting Open days of the HEI	0.240**
Information from HEI's fair	0.229**
Information from 'Postani student' web page	0.229**
Information from unbiased web pages	0.236**

Note: **. Correlation is significant at the 0.01 level (2-tailed); *. Correlation is significant at the 0.05 level (2-tailed).

Source: authors

Between characteristics of HEI and perceived service quality of the HEI, a statistically significant positive correlation is found with HEI location. While, correlation between perceived service quality of the HEI and tuition fees and the availability of HEI courses was not statistically significant (Table 13).

Table 13: Correlation of the perceived service quality of the HEI with characteristics of the HEI

	Perceived service quality	Tuition fees and overall cost of studying	HEI location	Availability of HEI courses
Tuition fees and overall cost of studying	0.062	1.000		
HEI location	0.139*	0.499**	1.000	
Availability of HEI courses	0.012	0.215**	.346**	1.000

Note: **. Correlation is significant at the 0.01 level (2-tailed); *. Correlation is significant at the 0.05 level (2-tailed).

Source: authors

5. Conclusion

This article provides a theoretical overview of phases though which students go while selecting HEI, as well as variables that affect them. It is important to identify the variables which affect

the perceived service quality because the perceived service quality consequently affects the level of satisfaction with the courses and the HEI itself (Alves and Raposo, 2007).

Since it is very important, to the marketing managers at HEI, to analyse the variables which affect the perceived service quality in pre-experience phase the Chapman model (1981) was tested. The Chapman model (1981) includes both intrinsic and extrinsic motivators on the students' service quality expectations. Service quality expectations are integral part of the perceived service quality (Parasuraman, Zeithaml and Berry, 1988), hence in this research tested a model that relates intrinsic and extrinsic motivators the perception of service quality.

Focusing on internal motivators, although the socio-economic status affects students while selection a HEI (Rahman and Uddin 2009), the research shows that not all socio-economic motivators contribute to perceived service quality of the HEI. A positive relation between family income and mother's education is found. Differences based on the influence of parental education on the assessment of perceived student quality were also noted by the authors Duzević, Delić and Knezević (2017), who found that depending on the educational background of parents, there is a difference in the students' perception of HEI quality.

Also, research shows a positive relation between perceived service quality and prior experience with HEI like high school experience, previous HE experiences and communication experience with this HEI. This is consistent with findings of Okerson (2016) who emphasises that a campus visit is important factor that influences HEI enrolment.

Hence, H1 can be partially accepted, as not all sub-hypotheses are accepted. Still, this shows that internal motivators should not be taken as a group of motivators, but researchers have to focus on each intrinsic motivator itself.

The analysis of extrinsic motivators and its relationship with the expected service quality showed the following. All the influential individuals influence students' perceived service quality of the HEI. This is consistent with in the research of Omar et al. (2009) in the context of children's homes. Also, among characteristics of the HEI, only HEI location contributes to the perceived service quality. But the relationship between communication of the HEI with prospective students of the HEI revealed that all variables contribute to perceived service quality. However, it is possible that assessing the importance of location as a variable of perceived service quality also depends on the geographical location of the country and other conditions shaped by different national influences. Štimac and Leko Šimić (2012) showed that location is not at all an important variable in assessing quality for students in Croatia and Slovenia, while it was significant in Hungary. Highest relationship was noted between perceived service quality and experience from visiting campus or HEI, visiting Open days of the HEI, information from unbiased web pages and information from web pages of the HEI. Hence, authors can conclude that H2 was accepted as majority of sub-hypotheses were found to be accepted by the conducted research. Still, as noted before researchers should distinguish between different external motivators that shape perceived service quality of the HEI.

This research can be helpful in management of HEIs while creating future marketing strategies. Extrinsic motivators are more influential in shaping perceived service quality of the HEI than intrinsic motivators. Hence, HEI managers should focus on their external communication about HEI as well as on influential individuals like parents, peers, teachers and advisors. The emphasis should be focused, while creating communicational messages, on first-year students to increase their perceived service quality, as they influence prospective students. Also, using

different communication channels and media is advised with focus on Open days of the HEIs and information on web pages both HEI and unbiased and independent web pages that communicate realistic picture of studying at the HEI.

Research has certain limitations, like testing on just one group of subjects, which was only conducted on one group of 1st year undergraduate students. This represents a limitation because it was proven that the perceived service quality changes during the years of studying (O'Neill, 2003). This was also stressed by Štimac and Leko Šimić (2012), where they proved that during the first three years of study, students' perceptions of perceived level of quality changes. For further research, testing a later phase of studying is suggested as well as testing on different HIEs. It is possible that there is a difference between expectations and perceived service quality between public and private HEI, and future research is suggested to go in that direction too.

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THE ROLE OF QUALITY ASSURANCE SYSTEM IN INCREASING THE QUALITY OF HIGHER EDUCATION IN THE REPUBLIC OF CROATIA

ABSTRACT

The aim of this paper is to explore the opinion of the academic staff on relationship between quality assurance system and improvement of teaching quality. The Quality Assurance System (QAS) was introduced in Croatian higher education institutions in 2009 by the Act on Quality Assurance in Science and Higher Education (Official Gazette 45/09), following the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG). The basic goal of establishing the QAS is to improve the quality of higher education institutions, respectively learning and teaching process. In this context, the aim of this paper is to examine the effectiveness of the implemented QAS in the opinion of the academic staff at institutions in the field of economics and business in the Republic of Croatia. The research for this paper was conducted using an online questionnaire in 2019, based on a sample of 100 academic staff at seven institutions in the field of economics and business in the Republic of Croatia. The views of the academic staff on the contribution of QAS to the quality of their work in the domain of teaching, curriculum, learning outcomes, methods of evaluating knowledge, and research work were examined. The results show that despite all the efforts in implementing the QAS in all institutions surveyed, only 22% of the surveyed academic staff recognize the contribution of the QAS to the quality of their academic work.

Keywords: *Quality Assurance System, Quality of Higher Education, Academic Staff Perspectives, Higher Education Institutions, the Republic of Croatia.*

1. Introduction

As a signatory of the Bologna Declaration, Croatia has, with the reforms already implemented, committed itself to implement a system of quality assurance for higher education (HE), following the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG). Fulfilment of the commitment began in 2009, when the Act on Quality Assurance in Science and Higher Education (Official Gazette 45/09) was adopted, establishing the Quality Assurance System (QAS) at Croatian higher education institutions. The establishment of the QAS has done a lot, in addition to adopting the mentioned Act (Official Gazette 45/09), institutional capacity to implement the quality

system has been founded (quality offices, quality committees, persons in charge for quality implementation at higher education institutions (HEIs), vice deans for quality, etc.). In addition to strengthening the institutional capacity at each HEI, the Agency for Science and Higher Education (ASHE), in accordance with the mentioned Act, has undertaken responsibility for ensuring and improving the quality of science and HE. The ASHE is in charge of implementing activities within the scope of the mentioned Act and other regulations. In addition to institutional capacity building (ASHE and HEIs), each HEI had to define a strategic framework for QAS. Quality System Regulations, Quality Policy, Quality Strategies, Activity Plans, and QAS Implementation and Improvement Measures, Quality Assurance Manuals, Strategic Quality Goals, Activities, Indicators are defined as well as mechanisms for ensuring, improving and promoting the quality of HEIs. Mechanisms for collecting feedback about the quality system have also been identified, as well as measures to improve quality indicators. In general, a great effort has been put into establishing the QAS at Croatian HEIs.

Ten years from the enactment of the mentioned Act on Quality Assurance, which has started the process of establishing the QAS at Croatian HEIs, it is justified to wonder what has been achieved. After all the efforts and activities undertaken in implementation and evaluation of the QAS at HEIs in the Republic of Croatia, at all levels, from the state (ministry, agency), HEIs and at the micro-level of all stakeholders in HE process, it is quite fair to ask what improvements has the QAS and external evaluation contributed to HE? That is, have all the undertaken activities and formalized procedures made HE any better, from the perspective of the Croatian academic staff? Since it is not possible to measure quality quantitatively and check whether it has really improved or not, it is only possible to ask the stakeholders of HE process what they think about it. There are many stakeholders in the HE process, primarily students, academic staff, state, public, employers and the like. This paper is focused on the academic staff, that is, people who teach in HEIs in Croatia. It is difficult to get students' feedback about the QAS since they are not familiar with the situation before the QAS was established. The academic staff is very familiar with the situation before, with QAS complexity and its achievements. So it is fully justified to ask them what they think about the QAS and whether the quality of their teaching has been improved or not.

Within the mentioned context, the aim of this paper is to present the results of the conducted research on the mentioned sample in Croatia. The question is whether the QAS at their HEI really improved the quality of their work? Whether all the effort – legal and strategic framework, management, new units, and formalized procedures – has made HE any better, especially learning and teaching (the declared goal of the ESG standard)? The research was conducted in 2019 at 7 (public) institutions in the field of economics and business in the Republic of Croatia. An on-line questionnaire, compiled by the authors of this paper, was sent to all academic staff at the aforementioned HEIs. The questionnaire sought to answer the question of how much QAS has improved the quality of their work.

The paper is structured into five chapters. After the introduction, a brief overview of the QAS in the Republic of Croatia and the European Union (EU) is provided. The third chapter presents an overview of the literature on critical evaluation of the QAS. The fourth chapter presents the methodology of the conducted research and its main results. The final chapter presents the main conclusions and implications of the paper.

2. Quality Assurance System at HEIs in the European Union and the Republic of Croatia

Quality assurance is a continuous and dynamic process that ensures the fulfilment of predefined standards and guidelines adopted by the ministers responsible for HE in the

European Higher Education Area (EHEA). As defined by the Agency for Science and Higher Education (ASHE) in Croatia, quality assurance is a comprehensive term referring to the ongoing process of evaluating (evaluating, monitoring, guaranteeing, maintaining and improving) the quality of higher education system, institutions and study programs. Quality assurance begins with the quality of an individual study program and the responsibility of the individual HEI for their quality (Ivkovic, 2009, 20).

2.1. Ensuring the Quality of HEIs in the EU

In order to increase the quality of HE, the European Association for Quality Assurance in Higher Education has developed Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG), based on request from the Bologna Conference in Berlin (2003), with the aim of developing and improving the quality of study programs for students and other users of HE (Ivković, 2009, 21). European standards and guidelines were adopted by the ministers responsible for HE in the European Higher Education Area (EHEA) in 2005 on the proposal of the European Association for Quality Assurance in Higher Education (in cooperation with the European Students' Union, the European Association of Higher Education Institutions and the European University Association) (ESG, 2015, 3). As significant progress has been made in the quality assurance system (QAS) and all comments and suggestions for further improvement of the system have been taken into account, a new proposal of the revised ESG has been prepared. The draft of the revised document was adopted by the Bologna Process Monitoring Group in 2014 and adopted by the Ministers of the European Higher Education Area in 2015. The content of the document is generic enough to allow it to be used at a national level by all signatories of the Bologna Declaration, regardless of the diversity of political and HE systems as well as a legal framework across countries.

In order to increase the quality of HE, the European standards and guidelines have been divided into three parts: (according to ESG, 2015, 7)

1. Standards and Guidelines for Internal Quality Assurance of Higher Education Institutions (HEIs),
2. Standards and Guidelines for External Quality Assurance of HEIs,
3. Standards and Guidelines for Quality Assurance Agencies.

These three parts are interconnected and together form the basis of the European Quality Assurance Framework (ESG, 2015, 7) and one unit. The Standards include quality assurance practices in HE that are accepted throughout the EHEA, while the Guidelines explain why a particular standard is important and describe how it can be implemented (ESG, 2015, 7).

Internal quality assurance refers to the strategic development of the quality system and the quality assurance processes by which HEIs guarantee that the Standards and quality of the offered education are continually maintained and improved. According to the ASHE, internal quality assurance is a system of measures and activities introduced and implemented by an institution to monitor and improve the quality of HE.

External quality assurance refers to systematic monitoring and the effectiveness of internal QAS, that is, to the processes by which an independent institution guarantees that the standards and quality of HE offered by the institution are maintained and improved (Horvat Novak and Hunjet, 2015, 464). The result of external quality system audits is an assessment of the level of development and compliance of HEI's QAS with European standards and guidelines (ESG) and Audit criteria. Depending on the level of development, each of the

criteria can be in one of the following stages (according to the Criteria for Audit and Dolaček-Alduk, Sigmund and Lončar Vicković, 2008, 41):

- Initial phase – the QAS is implemented but out of service (basic quality system documents are created),
- Developed phase – the QAS is operational and an internal audit has been carried out,
- Advanced phase – the QAS is continuously improved based on the results of internal and external audits.

Standards and Guidelines for Quality Assurance Agencies should ensure that professionalism, credibility and integrity of agencies are visible and transparent to their stakeholders and must allow comparability to be observable among agencies and allow the necessary European dimension (ESG, 2015, 23). There are seven standards related to ensuring the external quality of agencies. The content of the standards and guidelines indicates that certain criteria must be met by agencies in terms of their status, activities, resources (human, financial), independence in work and activity, reporting, etc. Standards do also contribute naturally to the work being done towards mutual recognition of agencies and the results of agency evaluations or accreditations (ESG, 2015, 23).

The purpose of the ESG standards is to (ESG, 2015, 6):

- constitute a common framework for quality assurance systems for teaching and learning at European, national and institutional levels,
- enable maintaining and improving the quality of higher education in the EHEA,
- encourage mutual trust, facilitating mobility within and across national borders,
- provide information on quality assurance in the EHEA.

The aforementioned purposes of the ESG form a framework within which various HEIs, agencies, and states can use and implement the ESG in a variety of ways.

2.2. Quality Assurance of Higher Education Institutions in the Republic of Croatia

As a signatory to the Bologna Declaration, the Republic of Croatia has since 2001 committed itself to implement the Standards and Guidelines for Quality Assurance in Higher Education (ESG). The ESG were introduced in the Republic of Croatia in 2009 by Quality Assurance in Science and Higher Education Act (Official Gazette 45/09). By adopting the mentioned Act, Quality Assurance Systems (QAS) for HEIs were established following the ESG. The key elements that national QAS should contain are (according to Predojević and Kolanović, 2015, 330): internal evaluation, external assessment, students' involvement, a publication of results and international assessment. The ESG envision that HEIs will independently conduct internal quality assurance procedures, while external evaluations of HEIs will be conducted by the ASHE.

Quality assurance in HE in the Republic of Croatia is based on:

- Science and Higher Education Act (Official Gazette, 123/03, 198/03, 105/04, 174/04, 02/07, 46/07, 45/09, 63/11, 94/13, 139/13, 101/14, 60/15 and 131/17);
- Quality Assurance in Science and Higher Education Act (Official Gazette 45/09);
- Standards and Guidelines for Quality Assurance in the European Higher Education Area (newer version from 2015);
- Audit Ordinance (Ordinance on Audit of Quality Assurance Systems at Higher Education Institutions in the Republic of Croatia (2017);
- Audit Criteria (2017);

- Standards for the evaluation of the quality of universities and university constituents in the procedure of re-accreditation of higher education institutions;
- Standards for the evaluation of the quality of polytechnics and colleges in the procedure of re-accreditation of higher education institutions.

The ASHE was established in 2005. Since its establishment, the ASHE has started to implement the QAS in science and HE. The process of implementation took place in several stages. In the first phase, a quality management system was established according to ISO 9001, which harmonized the quality level of all its activities, according to the Act on Scientific Activity and Higher Education. After many years of work on improving the documents of the quality management system, the Act on Quality Assurance in Science and Higher Education has started a new phase of the organization of the QAS in science and HE. With this Act, the ASHE becomes responsible for all types of quality evaluation in science and HE in the Republic of Croatia.

3. Critical Assessment of the QAS - Literature Review

The impact of the QAS on HE has received increasing attention lately, both in practice and in the academic literature. Considering that it is almost impossible to quantitatively measure the contribution of quality and ESG standards to real quality improvement in science and HE, this section will present the literature review on the issues related to the critical assessment of HEIs quality assurance.

Baldwin (1997) looked at how the national QAS of the early 1990s in Australia impact on universities. Baldwin argued that the QAS had some positive results: more rigorous course approval procedures; increased awareness of students' perspectives on teaching and learning; and a shift in climate, with a new attention to teaching issues and effective learning. On the negative side were four key issues: an excessive bureaucratization of procedures, with associated pedantry and legalism; a greatly increased administrative workload for academic staff, taking them away from their "core business"; a formalism that can stifle creativity and individuality, and a de-professionalization of the academic staff.

Barrow (1999) shows how quality management in New Zealand was considered as an instrument of governmentality developed to ensure the surveillance of the work of academic staff in an educational institution. It is suggested that surveillance has not led to an improvement in quality, or to institutional definitions of quality being realized; rather, that dramaturgical compliance to the system has been achieved. His conclusion is that "although the staff may be able to articulate and use the elements of the quality management system, this does not mean that the institution's definition of quality is understood, far less achieved" (Barrow, 1999, 35).

Newton (2000) examined academic staff perceptions of quality assurance. His study highlights that academic staff has a different view from academic managers and external quality monitoring bodies on the achievements of the quality system. Their view of the QAS is as "accountability-led" rather than "improvement–led". Regarding that QAS may become a shield for the purposes of addressing accountability requirements rather than providing a basis for quality development.

Harrison and Lockwood (2001) argue that the QAA (Quality Assurance Agency) fails to deliver on its avowed aim of assuring the quality of teaching and learning within universities as it does not aim to enhance teaching quality. The QAA aims to enhance confidence in teaching quality, not teaching quality itself. Furthermore, they argue that QAA scores do not

measure teaching quality; they only measure the degree of honesty of institutions' claims to teaching quality.

Morley (2003) and the academic staff she interviewed see little good in quality assurance and quality assessment, in both concept and implementation. According to her radical opinion, quality assurance and the like in HEIs is mostly about surveillance and control. She concludes that QA mechanisms in the UK could become instruments of declined creativity and less meaningful teaching and learning. QA processes have created a compliance culture and, paradoxically, are generating mediocrity rather than improvement.

Stensaker (2003) argues that the impact of quality assurance on teaching and learning seemed quite ambiguous. There were positive effects, such as increased attention towards teaching and learning, and signs of a cultural change in the attitudes of academic staff. Some negative effects were also revealed, such as the feeling academic staff had of being scrutinized and inspected; greater centralization and more "bureaucratization" in HEIs.

Harvey and Newton (2004) argue that most of the impact studies they reviewed assert the view that quality is more about accountability and compliance and, in some countries, control rather than improvement, and has, in itself, contributed little to any effective transformation of the student learning experience.

Anderson (2006) shows that academic staff, although committed to quality in research and teaching, continue to resist quality assurance processes within their universities. The results of the study argued that until university management, university quality agencies and academic staff draw on mutually agreed understandings of the quality concept, academic staff will continue to resist quality processes.

Weber (2007) points out two arguments in describing the need for quality assurance in HEIs. The first is related to the autonomy of HEIs. The restrictions on the autonomy of universities – even those honestly intended for their own good – reduce their quality, instead of improving it. This is justified by the ability of HEIs to adopt a proactive and entrepreneurial stance, rather than being stuck in the classic vicious circle of administration. The second argument is related to the lack of funding, which further emphasizes the importance of university management, which means that it is necessary to ensure that they respond as effectively as possible to the most pressing needs. He states that the QAS at HEIs is necessary, from the point of view of public authorities and the administration of HEIs. It is necessary to consider what can be done to bring the QAS to the real improvements and to minimize adverse side effects. That is actually the question he raised in his paper. His conclusion is that he hopes his chapter in the book "will convince the sceptics that developing a culture of quality in view of improving it is essential, and also convince the perfectionists that HEIs are complex, but generally mature entities. This being so, we must let them do the job they were meant to do…" (Weber, 2007, 29).

Banta (2010) indicates that quality assurance processes have improved pedagogical techniques, curricula, and student support programs in the United States like advising and learning communities and measurement instruments. But there is limited evidence supporting that student learning had improved, which is one of the main outcomes we expect from the QAS.

Cheng (2010) conducted a study that explores how academic staff perceived the impact of audit and audit-related quality assurance mechanisms on four aspects of their work: undergraduate classroom teaching practices, curriculum development, power relations between academics and students, and academics workload (Cheng, 2010). The results of

Cheng's study showed that quality audits remain a source of controversy. "Two-thirds of the respondents considered audit and quality assurance mechanisms as an ineffective bureaucratic practice that had little impacts on their work. The remaining one-third of respondents found the audit useful for improving teaching practice, particularly increasing academic staff awareness of the importance of good teaching" (Cheng, 2010, 269).

Harvey and Williams (2010) in their review suggest that it is still not clear that, even after 15 years, QAS have really enhanced HE. The review suggests that it has resulted in clear documentation and transparency, although external processes could be better aligned with everyday academic activity. The link between external processes, internal processes and improvements in teaching and learning seems to be tenuous and patchy (Harvey and Williams, 2010, 107). In this view, quality assurance fails to be a part of the everyday activity of academic staff because they perceive no real link between the quality of their academic work (which includes teaching and research) and the performance embodied in quality assurance processes.

Ryan (2015) provides a review of the literature on the effectiveness of quality assurance practices. In her paper she states the authors and their papers as an example of prevailing scepticism, and, on the other hand, she states the authors who are positive about the relation between quality assurance and its effectiveness on academic work.

According to Smidt (2015), the implementation of the Bologna Process, and Quality Insurance as one of the pillars on which Bologna is based, was designed to create a competitive and flexible European Higher Education Area through e.g. introducing three-cycle systems, curriculum development, learning outcomes linked to qualification frameworks, ECTS for transfer and accumulation and diploma supplements, all to increase transparency and flexibility. These very ambitious goals may not have been achieved in all 48 countries, but they have supported and highlighted the importance of HE for the future of Europe in all countries.

Brady and Bates (2016) indicate that the balance between core aims of the Quality Assurance Agency in the United Kingdom (UK) (accountability and enhancement) has been lost and the discourse of accountability and efficiency prevails. The results of the research confirm that a combination of standards and excessive institutional control may result in a decline in the quality of teaching and learning rather than a "quality culture".

Looking back at the first decade of the journal Quality in Higher Education Harvey (2016) concluded that there were few studies of the impact of quality assurance reflecting a general failure in the literature to adequately explore it. Harvey (2016) states that "quality assurance fails to be a part of the everyday activity of academics because they perceive no real link between the quality of their academic work (teaching and research) and the performance embodied in quality assurance processes. This leads to a degree of cynicism about the efficacy of assurance processes" (Harvey, 2016, 8-9).

Liu (2016) in her book gives a literature review regarding the understanding how quality assessment causes university change. After the research she has done, she concludes that the impact of quality assessment on university change, especially on teaching and learning, is not as great as expected. She highlights the papers with both positive and negative effects of the QAS.

Williams (2016) outlines in his paper a brief reflection that highlights a variety of perspectives on the relationship between quality assurance and quality enhancement. On the one hand, it is arguable that quality assurance and quality enhancement have little real contact

and work in isolation from each other (he stated some authors with such research findings). At the other end of the spectrum, quality assurance and quality management are integral to each other (he also stated some authors with such research findings).

The main question in Beerkens' paper (2018) is "if all this – stronger leadership, management, new units, and formalized procedures – has made education any better?" (Beerkens, 2018, 274). The conclusion is that the impact of various quality assurance policies on student learning – which is presumably the primary target of quality policies – is to a large extent unknown. There is thus quite a lot of evidence on positive (and some negative) effects of external quality assurance on universities "but the question of whether graduates now walk out with better knowledge and skills as a result of all the quality reforms is still hard to counter" (Beerkens, 2018, 273-274).

The presented literature review indicates all the complexity of assessing the impact of the QAS on quality improvement in HEIs. Namely, it is almost impossible to draw a general conclusion from the analysed papers. The estimation is that the impact depends on a number of factors, which is the method of evaluation, the subject of evaluation, what is considered as the quality of HE, the quality assessment schemes, the characteristics of the evaluated institutions, etc. While many studies argue that quality assessment has not caused university change as much as expected, the others are stating that quality assessment is an effective technology for supporting change in HEIs.

However, this kind of research is still inadequate. After reviewing the literature, it can be stated that there is no consensus on the methodology for evaluating the impact of QAS on quality improvement in HEIs. Nor there are defined quality parameters that should be assessed when evaluating the QAS influence. Likewise, there is no universally accepted uniform definition of the quality of HE, which complicates any further form of research. Research of this kind, as mentioned, is still scarce, at the European level, and especially in the Republic of Croatia. The research presented in the next chapter of this paper is the first of its kind in the Republic of Croatia and is a great contribution to the discussion on the impact of QAS on improving the quality of learning and teaching, as the main declared objectives of the quality system in general.

4. Methodological Framework and Results of Empirical Research

Empirical studies have indicated that the impact of a quality assurance system (QAS) is not straightforward, i.e. it is extremely complex. It affects different spheres of higher education (HE) and research process and it is impossible to enumerate all its impacts. There is currently a debate on whether the QAS raises the quality of learning and teaching, or it is a purpose in itself? Is the QAS opportunity or a threat? The literature review indicates that there are divided opinions on the effectiveness of QAS. On the one hand, there are advocates who believe that this is an effective way of influencing the quality of teachers (Banta, 2010; Smidt, 2015; Weber, 2007). On the other hand, there is a view that QAS is a pointless process because it focuses on measuring quantitative indicators rather than qualitative ones (for example Anderson, 2006; Barrow, 1999; Harrison and Lockwood, 2001; Harvey and Newton, 2004; Harvey, 2016; Newton, 2000). The question is, can quality academic staff, i.e. those who deliver and transfer knowledge qualitatively, be identified by quality indicators?

It is almost impossible to answer those questions uniquely because the quality is in the eyes of a beholder and does not represent equal value for all. The quality of HE depends on the expectations and satisfaction of users, preferably students, employers, teachers, local and wider community. In this paper, the emphasis is on the perceptions of the academic staff. Given that academic staff is the most qualified to achieve an appropriate level of quality and directly influence its achievement with their work, the aim of this paper is to examine their

views. Regarding that 10 years have passed since the introduction of the QAS in Croatia, it is quite reasonable to ask what the academic staff thinks about it. This part of the paper presents the methodology of the conducted research and its main results.

4.1. Methodological Framework of the Research

The aim of this paper is to examine the perception of the academic staff at the institutions in the field of economics and business in Croatia about the QAS and its influence on their quality. An online questionnaire was compiled for the purpose of this paper. The questionnaire was compiled by the authors of this paper after a detailed analysis of the literature and after a research of all the essential aspects of the QAS and quality of HE. The questionnaire, in addition to a few general questions, offered 9 statements and academic staff were required to express their degree of agreement or disagreement (Likert scale). The statements related to the contribution of QAS to the particular segments of their work at HEIs: quality of their teaching, curriculum, learning outcomes, methods of knowledge evaluation, research work and the like. The contribution of the QAS to those key activities academic staff should evaluate from 1 (strongly disagree) to 5 (strongly agree). The questionnaire was constructed online at the limesurvey.srce.hr site. The survey was conducted in 2019 (June / July). Public institutions in the field of economics and business in the Republic of Croatia were selected as a sample (Zagreb, Osijek, Rijeka, Pula, Split, Zadar, Dubrovnik). A link for fulfilling the questionnaire was sent to all the academic staff at the mentioned HEIs. The questionnaire was completely filled out by 100 academic staff. The structure of the respondents is presented in graph 1.

Graph 1: The structure of the respondents by affiliation with a HEI (%)
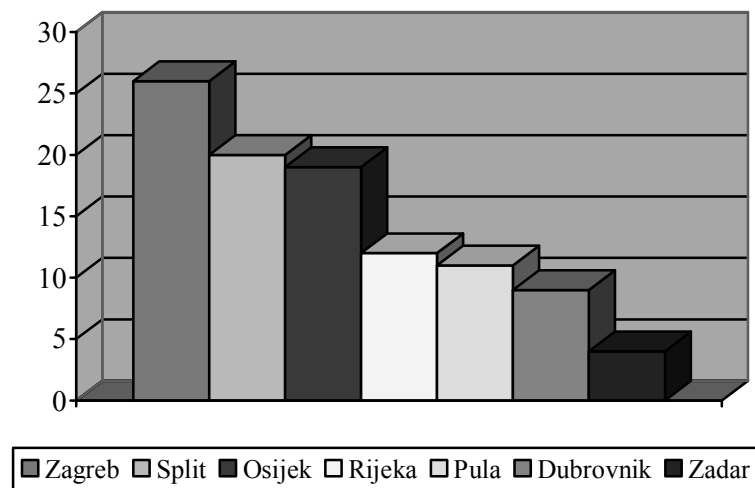
Source: Results of empirical research

Most respondents answered from the Faculty of Economics and Business in Zagreb (since it is the largest institution in the sample). By age, the majority of respondents belong to the age group of 31-40 years (39%), followed by 41-50 (35%). By gender, 68% of females and 32% of male respondents answered. According to the academic title, most respondents were associate professors (30%) and assistant professors (25%).

4.2. Results of the Empirical Research

The aim of the questionnaire was to examine the views of the academic staff in Croatia on how much the QAS has contributed to the quality of their teaching methods/processes, curriculum, learning outcomes, knowledge evaluation method, academic work in general, etc.

Nine statements that represent the quality of the HE process were offered in the questionnaire. Respondents were asked to indicate the degree of their agreement with the given statements according to the Likert scale. The question was: The QAS has improved the quality of:

1. my teaching methods (teaching)
2. curriculum of my courses
3. learning outcomes of my courses
4. my evaluation methods
5. meeting the labour market needs
6. my scientific/research work
7. my responsibility towards teaching
8. my academic work in general
9. graduates' knowledge and skills.

Graph 2 presents level of agreement (from 1 to 5) of all respondents according to the given statements. The respondents had to eliminate their progress due to some other reasons and assess their progress solely due to the QAS (as much as it is possible).

Graph 2: The average level of agreement with the contribution of the QAS to the offered determinants of quality in HE
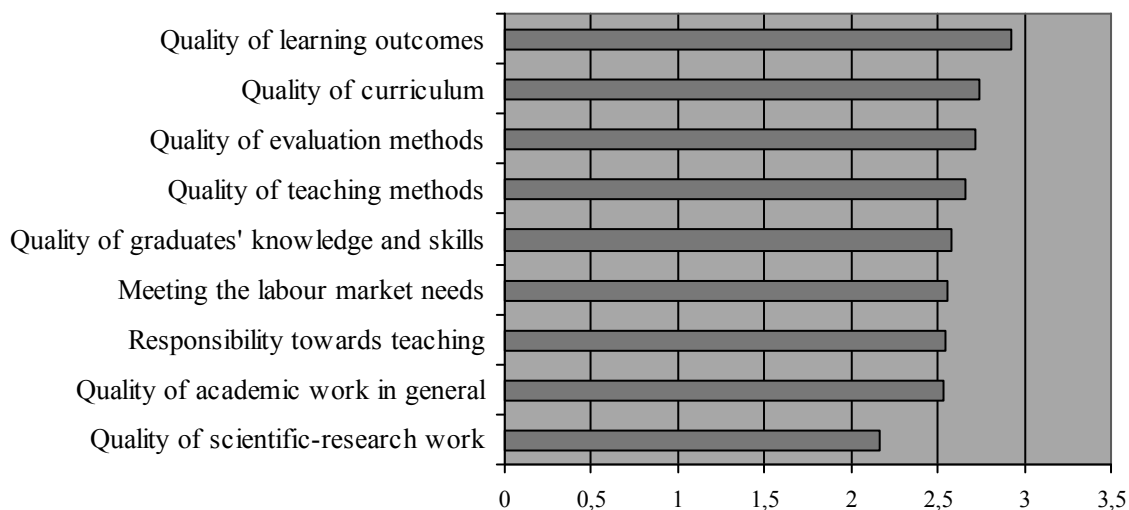
Note: Degree of agreement: 1 – not at all, 2 – mostly no, 3 neither yes nor no, 4 – mostly yes, 5 – completely yes.

Source: Results of empirical research

Based on the results presented in Graph 2, it is noted that the greatest contribution of the QAS is recognized in raising the quality of learning outcomes and in raising the quality of the curriculum. On the other hand, the smallest impact of the QAS is perceived in raising the quality of scientific / research work, which is expected. Namely, the goal of establishing the QAS at the European level is to improve the quality of learning and teaching. Focus is not on promoting research directly, and it is, therefore, no surprise that, according to the respondents, the smallest contribution of QAS is reflected in the quality of research work. The results of the research also indicate that the average degree of agreement for all respondents according to the given quality parameters is 2.6. That indicates negative as well as the indifferent attitude of the respondents about the QAS and its impact on quality, which is quite worrying. Ten years after the introduction of the QAS into Croatian HEIs, there is still a large number of academic staff who do not have an opinion about QAS. That means that they are either not sufficiently familiar with the QAS or do not clearly recognize its

contribution. Based on the results of the research, it is evident that QAS either did not obtain the results expected from it or it is not recognized from the surveyed academic staff.

In order to further analyse the respondents' answers to the same question, Table 1 presents all the statements from the questionnaire with the number of respondents who selected each degree of agreement (from 1 to 5). The purpose of the analysis is to gain an insight into a proportion (%) of the respondents who recognize the contribution of QAS, those who do not recognize its contribution and those who do not have an attitude.

Table 1: Percentages of respondents' level of agreement with given statements (analysis 1)

	Statements	Degree of agreement					Respondents
	The QAS has contributed to:	1	2	3	4	5	TOTAL
1	Quality of my teaching methods/process	18	25	35	17	5	100
2	Quality of curriculum of my courses	17	23	32	25	3	100
3	Quality of learning outcomes at my courses	16	21	24	32	7	100
4	Quality of my methods of evaluation	18	22	34	22	4	100
5	Meeting the labour market needs	22	23	35	17	3	100
6	Quality of my scientific/research work	35	27	27	9	2	100
7	My responsibility towards teaching	24	18	39	17	2	100
8	Quality of my academic work in general	23	23	36	14	4	100
9	Quality of graduates' knowledge and skills	20	23	38	17	2	100

Note: Degree of agreement: 1 – not at all, 2 – mostly no, 3 neither yes nor no, 4 – mostly yes, 5 – completely yes.
Source: Results of empirical research

Only 22% of the surveyed academic staff (those who chose degree 4 and 5, or mostly yes and completely yes) have a positive attitude on the relationship between QAS and their quality of teaching and teaching methods. 43% of them think that QAS did not contribute to the improving the quality of their teaching (those who chose degree 1 and 2, or not at all and mostly no), while the remaining 35% thought that QAS's contribution was neither positive nor negative (neither yes nor no). The highest proportion of positive responses was seen in QAS's contributions to the quality of learning outcomes, 39% of them stated that they agreed or generally agreed with the above statement. The next statement with the highest proportion of agreement is the improvement of curriculum thanks to the QAS (28%). Analysing the respondents' answers regarding the statement: the QAS has contributed to the quality of my academic work in general, it is visible that only 18% of respondents agree with it, 46% of the surveyed academic staff disagree with this statement, and 36% chose rank 3 (neither agree nor disagree).

Table 2 presents a summary analysis of those who have a positive attitude towards QAS and those who lacked it. Respondents that do not agree (degree 1 and 2) with the given statements were characterized with negative attitude and respondents that agree with given statements, i.e. those who choose degree 4 and 5, where characterised with positive attitude.

Table 2: Percentages of respondents' level of agreement with given statements (analysis 2)

	Statements	Attitude			Respondents
	The QAS has contributed to:	Negative (degree 1 and 2)	Neutral (degree 3)	Positive (degree 4 and 5)	TOTAL
1	Quality of my teaching methods/process	43	35	22	100

	Statements	Attitude			Respondents
	The QAS has contributed to:	Negative (degree 1 and 2)	Neutral (degree 3)	Positive (degree 4 and 5)	TOTAL
2	Quality of my curriculum	40	32	25	100
3	Quality of my learning outcomes	37	24	39	100
4	Quality of my methods of evaluation	40	34	26	100
5	Meeting the labour market needs	46	35	20	100
6	Quality of my scientific/research work	62	27	11	100
7	Responsibility towards teaching	42	39	19	100
8	Quality of my academic work in general	46	36	18	100
9	Quality of graduates' knowledge and skills	43	38	19	100
	Average ($\bar{x}$)	44.5	33.5	22	-

Note: Degree of agreement: 1 – not at all, 2 – mostly no, 3 neither yes nor no, 4 – mostly yes, 5 – completely yes.

Source: Results of empirical research

According to the survey results presented in Table 2, on average, only 22% of the total surveyed academic staff have answered positive (degree 4 and 5 of agreement) for all nine statements. It means that they have a generally positive perception of QAS and its impact on the quality of their work. The proportion of "pessimists" (those with negative attitude, ie. those who have chosen rank 1 and 2 (not at all and mostly no)) is 44%. They represent the proportion of the surveyed academic staff with a negative attitude towards the QAS, that is, they do not recognize its contribution to improving the quality of their work (teaching, curriculum, learning outcomes, knowledge evaluation, and the like). The rest of the 33% are the respondents who have chosen degree 3 of agreement (neither yes nor no). They represent those who have a neutral attitude towards the QAS. The aforementioned analysis reveals the attitude of the surveyed academic staff on the QAS. If the respondents who positively evaluate the relationship between QAS and quality of teaching are those who have chosen rank 4 and 5, it turns out that only 22% of the examined academic staff are optimists. The rest of 78% of the examined academic staff do not recognize the positive link between the QAS and the quality of their work.

One of the questions in the questionnaire was related to the organisation of the unit that carries out the QAS at HEI. The respondents' answers are presented in graph 3.

Graph 3: Organization of the QAS implementation unit (number of respondents who selected each organisational form)
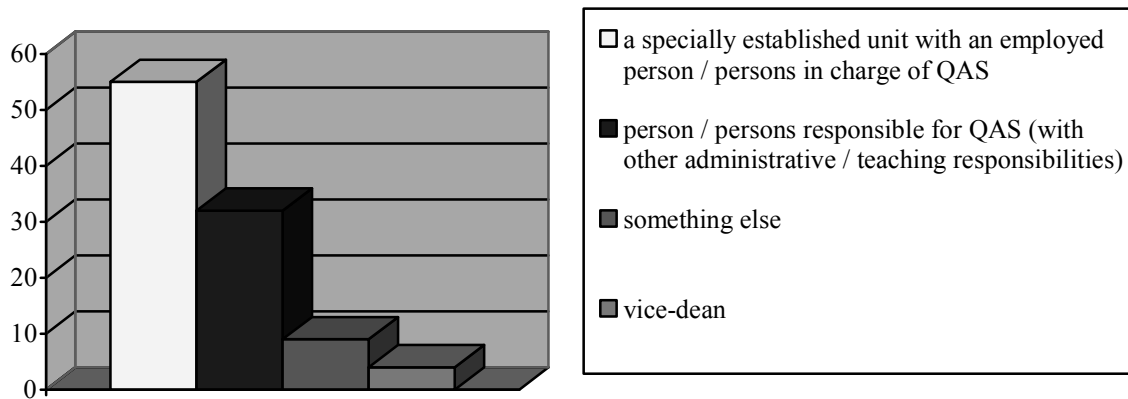
Source: Results of empirical research

The analysis of the answers in Graph 3 indicates the institutional framework for the implementation of QAS at HEIs. Respondents were offered three different organisational forms of QAS implementation at their HEI and also they were given the opportunity for an open answer. The most common form of institutional organisation for QAS is a specially established unit with an employed person (s) in charge of QAS (55%). Person/persons responsible for QAS (with other responsibilities) choose 32%. The quality management committee was mostly cited by the respondents in an open answer. This analysis indicates the seriousness of all the surveyed institutions when establishing an institutional framework for quality management. They all have either person/s or entire departments dealing with quality assurance at their institution.

Respondents' answers to the question of whether the QAS takes too much time on administrative workloads, can be seen in Graph 4.

Graph 4: Administrative Requirements of the QAS
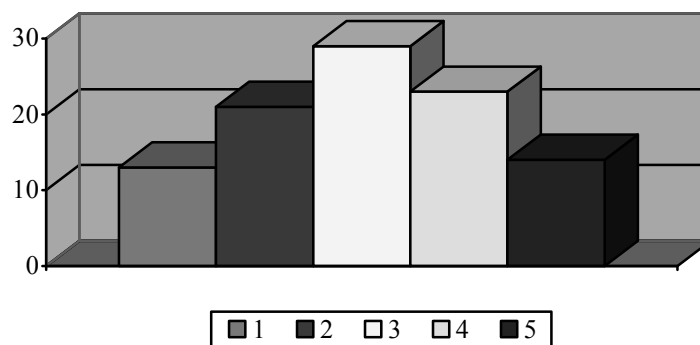
Note: Degree of agreement: 1 – not at all, 2 – mostly no, 3 neither yes nor no, 4 – mostly yes, 5 – completely yes.
Source: Results of empirical research

Thirty-seven percent (37%) of the respondents agree or fully agree that QAS takes too much time for administrative work, 34% of them do not consider it, while 29% neither agree nor disagree. It follows that the surveyed academic staff is roughly divided over whether or not QAS imposes additional administrative work on them.

5. Conclusion

The main objective of this paper was to examine the views and reflections of the Croatian academic staff at the institutions in the field of economics and business on QAS and its impact on quality of their teaching. The aim of the paper was not, in any way, to objectively evaluate or measure the impact of QAS on raising the quality of HE, nor is there a consensus on how to assess it. The aim of the paper was, as stated above, only to examine the views of the mentioned academic staff on the QAS and its impact on the quality of teaching.

The literature review indicates that there are divided opinions on the effectiveness of QAS. On the one hand, there are advocates who believe that this is an effective way of influencing the quality of academic staff. On the other hand, there is a view that QAS is a pointless process because it focuses on measuring quantitative indicators rather than qualitative ones. While the internationalisation of quality systems and the standardization of procedures is fairly clear, their impact on teaching and learning processes is less clear. A review of the Croatian literature indicates that there is a lack of research about this topic. No papers have been found about critical assessment of the impact of QAS on teaching and learning process.

The research for the purpose of this paper was conducted by an online questionnaire, compiled by the authors of this paper, and was forwarded to the seven public institutions in the field of economics and business in the Republic of Croatia. The questionnaire was completely fulfilled by 100 academic staff. The research results are similar to the results presented in the literature review. Approximately one-quarter of the respondents are satisfied with the QAS and believe in its contribution to the quality of their own work. While the rest of the respondents, about three-quarters, do not believe that QAS can achieve the expected results and affect their quality.

It can be concluded that the surveyed academic staff in the Republic of Croatia still have a mostly negative attitude towards the QAS. In other words, the surveyed academic staff believe that the QAS results are either missing or they are simply not recognised. As one of the respondents said, quality by its definition cannot be measured, that is, quantification of quality is an oxymoron by the very definition of a word. It follows that relevant services and institutions in Croatia should reconsider the actual role of the QAS and its further redefinition.

The main limitation of the paper is the inability to objectively evaluate the contribution of QAS to the actual quality of learning and teaching. Namely, there is no consensus at a national level what quality is, nor is there a consensus on how to measure it. This paper was based solely on the attitudes and perceptions of the academic staff.

Based on the empirical analysis in this paper, it can be concluded that QAS has not yet produced an efficient contribution to the quality of teaching. Regarding that QAS has been implemented only 10 years ago in Croatia, we can say that quality assurance is still a work in progress in HE, and it seems that universities need a highly distinctive paradigm for quality assurance. The proportion of the population recognizing the positive contribution of QAS to quality is extremely low and does not justify all the effort put into establishing a QAS. For future research, it is necessary to expand the research sample and to conduct an interview instead of a survey. The reason for this is to highlight the shortcomings of QAS more clearly. Those shortcomings could serve as basic recommendations for future improvements of the system. Through a questionnaire, it is possible to conduct research on a similar sample for five years, for example, to see if there are any improvements within the QAS in the opinion of the academic staff. The basic recommendation of this paper is to reconsider the QAS, its goals, the implementation, and possible redefinition.

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THE IMPACT OF ECONOMIC MOTIVES ON THE TREND OF EMIGRATION FROM THE REPUBLIC OF CROATIA

ABSTRACT

Migrations are nowadays simply inevitable process. The main driver of migration is the escape from the bad and the pursuit of better living conditions, and they were then, as today, predominantly linked to economic, political and geographical factors. Emigration from Croatia was primarily driven by a mix of economic and political motives, and as such, has largely taken on a lasting character throughout all historical periods.

Economic motives are one of the dominant ones when it comes to the emigration of Croats to Western countries of Europe. More developed, western, and richer countries receive in this way highly educated workforce or simply the necessary staff, but this process, on the other hand, certainly has demographic and social consequences in Croatia. With every emigrated Croat, the social capital of the country, the capital invested in its education, as well as the possibility of biological renewal of society are lost. But while economic motives are primary, they are not the only ones.

In recent years, the emigration from the Republic of Croatia is highly expressed, so the aim of the paper is to show and determine how much economic motives have an impact on current emigration trends. In this research is included a survey conducted on a representative sample of respondents, adults who left the Republic of Croatia. The results of the survey should show which the economic motives for emigration are and whether they are leading motives for leaving.

The data were processed with the statistical package STATISTICA 11.0, except for the hi-square test. In addition to the survey, scientific and professional articles, publications, laws and statistics were studied. The results of this research should present how economic motives affects the trend of emigration from Croatia.

Key words: *economic motives, Croatia, migration, emigration.*

1. Introduction

One of the biggest problems in Croatia today is emigration - the departure of a large number, especially young people from the country. "Population migration (mechanical movement) indicates the primary mobility or spatial mobility of the population." (Wertheimer-Beletić, 1999.) Economic migration, is a commonly cited reason for migration. "In general, it is believed that in economic migration people move from poorer developing areas into richer areas where wages are higher and more jobs are available. It is also common for people from rural areas to move to more competitive urban areas in order to find more opportunities."(Justice for immigrants, 2020) Emigration from Croatia is a continuous process. The problem of emigration in Croatia is further increased by weak economic indicators. The obtained data are devastating

on several levels, and they follow losses in education, as well as loss of potential GDP. This trend has been particularly pronounced since the beginning of the economic crisis and with Croatia's accession to the European Union. "Unemployment rate in Croatia in 2018. was 8,5 % and youth unemployment rate being 7,9 % and it is still higher than the European Union average." (Eurostat, 2020) The citizens of Croatia are clearly extremely dissatisfied with their socio-political life and, in combination with poor economic conditions, are massively grabbing the last straw of their salvation for a better life - emigration.

2. Emigration from the Republic of Croatia

Today, more people than ever emigrate from the country in which they were born. The UN defines a migrant "as any person who has moved across an international border or within a State away from his habitual place of residence, regardless of the person's legal status; whether the movement is voluntary or involuntary; what the causes for the movement are; or what the length of the stay is." (United Nations, 2020) Emigration is affecting less developed countries as it reduces social capital and development capacity. The departure of the population is one of the growing problems especially for the Eastern European countries. "European Commission figures show that between 2006 and 2016, between six and nine per cent of university graduates emigrated from Poland, Romania and Slovakia (and Latvia and Lithuania)." (Poslovni.hr, 2018) The motives for emigration from Eastern European countries are not purely economic. The motive for leaving is also security. Emigration from Croatia was primarily driven by mixed economic and political motives, and as such, has largely taken on a lasting character throughout all historical periods. Emigration of highly educated persons is especially dangerous. Brain drain, "the migration of young and educated workers takes a toll on a region whose human capital is already scarce." (UNESCO, 2020) According to a survey by the Institute for Social Research Zagreb young people today "as motives for migration, along with employment, emphasize 'character building' and the influence of friends who have already gone abroad, education, but also general dissatisfaction with life in Croatia and political reasons. In addition, they emphasize gaining experience, becoming independent and getting to know other cultures." (Lider, 2018) Graph below shows external migration from Croatia.

Chart 1: External migration from Croatia from 2008 to 2018
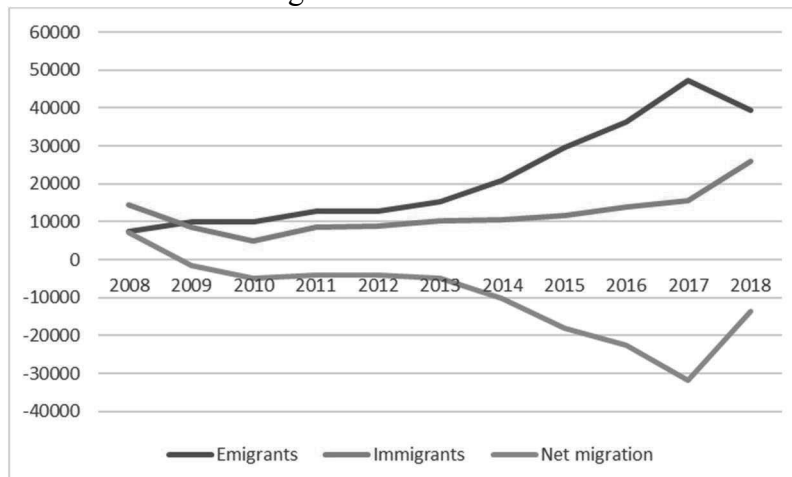
Source: Državni zavod za statistiku, 2019

The chart 1. shows the migration of the Republic of Croatia from 2008 to 2018. In the stated period 241 938 people emigrated from Croatia. "Germany, Austria and Ireland are for several years the most attractive countries of destination for emigrants from the Croatia." (Državni

zavod za statistiku, 2018) People migrate for many different reasons - unemployment, wage differentials, employment opportunities, quality education and higher expectations for future generations. Studies devoted to international migration emphasize "factors of international migration that can be grouped into six groups: economic, socio-demographic, politico-security, linguistic and cultural, ecological-natural and institutional." (Shymanska, Mykola, Kurylo, K., 2017) However, economic motives are one of the dominant ones when it comes to the emigration of Croats to Western countries of Europe.

"Statistics show that in neighboring countries, Bosnia and Herzegovina and Serbia are also economic motives in the first place, but they are not the only ones." (Made for minds, 2017) Economic migrant "is a person who leaves their country of origin purely for economic reasons that are not in any way related to the refugee definition, in order to seek material improvements in their livelihood."(European Commission, 2019) According to recent research of EU, motives of mobile Europeans are highly diverse, but work and personal relationships are clearly the two main driving factors. Work-related factors include employment, higher wages, career prospects and working conditions. Motivations tied to personal relationships involve familial as well as romantic relationships.(Strey A., 2018) Considering that, in the chapter that follows will be shown and determined how much economic motives have an impact on current emigration trends.

3. Results of the survey on the impact of economic motives on emigration from the Republic of Croatia

Croatia's growing emigration is a trend in recent years. Although this trend is noticeable and ubiquitous in everyday life, it was conducted a survey „Emigrants' perception of the impact of migration on the Republic of Croatia" with a view to better understanding the reasons why people leave Croatia. The survey was conducted in order to gather data on the respondents' opinion regarding migration. It is made an instrument in the form of an online survey, using the Google service to create an online survey (Google Docs Survey) for the purpose of collecting such data.

Sample of entity

The sample of entity consists of 353 Croatian emigrants who have emigrated to any country in the world since the Homeland War 1996. The sample consists of respondents who were over 18 years at the time of emigration, and there were no other restrictions on entity selection except for age and time of emigration. The sample is conveniently selected, those emigrants who have been approached by the author by personal acquaintance, or by the acquaintance of her acquaintances. However, the sample size ensures satisfactory representativeness.

Sample variables

The sample of variables consists of three nominal (demographic) and seven ratio variables on a survey instrument. Nominal variables are gender, age and qualification, each of which is divided into two categories. Gender: Male [M] and Female [Female], Age: up to 30 years [-30] and over 30 years [30+], qualification: Lower + Secondary [S] and Higher + Higher Education [H].

The seven ratio variables are seven questions that assess the strength of economic motives for emigrating from Croatia. The motives are ranked on a scale of 1 to 3, where the highest score shows the highest motivation to emigrate.

The economic motives for emigration are:
1. Higher job opportunities (EMPLOYMENT)
2. Higher salary (SALARY)
3. Better working conditions (WORKING CONDITIONS)
4. Better living conditions (LIVING CONDITIONS)
5. More likely to develop a career (CAREER)
6. Greater social security (SOCIAL)
7. More favorable economic situation (ECONOMY)

Data processing methods

Methods for processing results included calculating descriptive statistical parameters: frequencies for non-parametric variables, and for parametric ones: arithmetic mean (AM), median (Me), mode (Mo), mode frequency (FMo), minimum (Min) and maximum (Max) result, range (R), variance (V), standard deviation (SD), asymmetry measure (a3), and distribution curvature measure (a4).

The seven variables of economic motives were condensed by the arithmetic mean into the variable ECOMOTIVE, on which the same parameters were calculated, and shown with frequency histogram. Distribution normality was tested by the Kolmogorn-Smirnov and Lilliefors tests. Respondents' frequencies were calculated in individual categories of demographic variables, and the significance of differences between the frequencies obtained was tested by Bartlett's chi-square test. Arithmetic means and significance of differences between arithmetic means of groups of three demographic variables according to the variable ECOMOTIVE were calculated and tested by Student's t-test. The data were processed with the statistical package STATISTICA 11.0, except for the hi-square test.

Results and discussion

The table shows the number of respondents in each category in the first three nominal variables:

Table 1: Frequency allocation for nominal variables

	CATEGORY	FREQUENCIES	%
GENDER	M	186	52,7
	F	167	47,3
AGE	-30	219	62,0
	30+	134	38,0
QUALIFICATION	S	192	54,4
	H	161	45,6

Source: made by author

The table 1. shows that there are slightly more male emigrants (52.7%) in the sample, but significantly more (almost two - thirds) of those under 30, which was expected. The reason probably lie in "rooting" in society, after which it is difficult to decide on such a drastic move as "rooting" and moving to a new place, which requires a new "rooting". Younger people mostly

do not have a family, more permanent employment and real estate, which makes them "not rooted" and thus more free to start a new life in emigration. Respondents with lower and secondary education is something more (54.4%) of those with higher education (45.6%), which also was expected, but not in this ratio. Namely, if it is known that in Croatia about 16% (Državni zavod za statistiku, 2011) of the population has a university degree, then 45.6% of emigrants with a university degree are a huge percentage, which shows that the relative majority of emigration is made up of highly educated emigrants. It is quite certain that the more and highly educated population in Croatia is most dissatisfied with their social status, which is not appreciated by Croatia. As borders between countries are being erased, Croatian citizens are becoming more aware of the better standard of living just a few hundred kilometers outside Croatia. The table below shows the basic statistical parameters of the seven variables of economic motives for going abroad.

Table 2: Basic statistical parameters (AM - arithmetic mean, Me - median, Mo - mode, FMo - frequency mode, Min - minimum, Max - maximum, R - range, V - variance, SD - standard deviation, a3 - skewnis, a4 - kurtosis)

	AM	Me	Mo	FMo	Min	Max	R	V	SD	a3	a4
EMPLOYMENT	2,72	3	3	282	1	3	2	0,36	0,60	-2,00	2,68
SALARY	2,86	3	3	315	1	3	2	0,19	0,44	-3,19	9,56
WORKING CONDITIONS	2,85	3	3	311	1	3	2	0,19	0,44	-3,01	8,54
LIVING CONDITIONS	2,86	3	3	315	1	3	2	0,19	0,44	-3,19	9,56
CAREER	2,60	3	3	238	1	3	2	0,38	0,62	-1,31	0,60
SOCIAL	2,61	3	3	246	1	3	2	0,41	0,64	-1,41	0,73
ECONOMY	2,76	3	3	284	1	3	2	0,27	0,52	-2,12	3,58

Source: made by author

The table 2. shows that respondents equally value all seven economic motives for emigrating from Croatia. Since each variable scale varies from 1 to 3, it can be observed that the averages varying up from 2.60 to 2.86 are very high. However, the most important economic factors that motivate emigrants are better living conditions (AM = 2.86), higher wages (AM = 2.86) and better working conditions (AM = 2.85), while the least motivators are career development (AM = 2.60) and higher social security (AM = 2.61). Respondents mostly disagree on why to emigrate for greater social security (SD = 0.64), career development (SD = 0.62) and higher job opportunities (SD = 0.60), while most agree that they should emigrate due to better living conditions (SD = 0.44), higher wages (SD = 0.44) and better working conditions (SD = 0.44). Although the smallest dispersion of results was expected on the variable SALARY and WORKING CONDITIONS, it is unexpected that the highest compliance among respondents is that they should emigrate because of generally better living conditions. Considering that this variable also has the largest arithmetic mean, it comes to the interesting conclusion that work itself and everything related to it is not the only thing that drives people outside of Croatia. LIVING CONDITIONS is a multidimensional variable whose structure of variance is made not

only by economic conditions but also by the socio-political situation in Croatia, and probably by other factors. Certainly, further research should be directed towards discovering and factorizing the complete factor structure of the motive for emigration. It is interesting that in all variables of economic motives at least one respondent gave a minimum grade 1, which in turn suggests that perhaps not every economic motive is equally valued, although this conclusion is completely inconsistent with other parameters. A more detailed analysis will reveal which entities.

The asymmetry measure is significantly on the negative pole on all variables, which indicates that most respondents answer the question above-average results, which leads to extremely negative asymmetric distribution. The measure of curvature varies from variable to variable over a full range, from highly platykurtic distributions (CAREERS a4 = 0.60 and SOCIALS a4 = 0.73) to extremely leptokurtic distributions (LIFE CONDITIONS a4 = 9.56 and SALARY a4 = 9.56). Kurtosis variables LIFE CONDITIONS once again confirms that respondents are extremely homogeneous in terms of this motive. Due to the relatively unsatisfactory measurement characteristics of the obtained variables and thus methodological limitations for the use of multivariate data processing methods, seven variables of economic motives for emigration were condensed by arithmetic mean into the variable ECOMOTIVE. The following table shows the basic statistical parameters of the resulting variable.

Table 3: Basic statistical parameters (AM - arithmetic mean, Me - median, Mo - mode, FMo - frequency mode, Min - minimum, Max - maximum, R - range, V - variance, SD - standard deviation, a3 - skewnis, a4 - kurtosis)

	AM	Me	Mo	FMo	Min	Max	R	V	SD	a3	a4
ECOMOTIVE	2,75	2,86	3	147	1	3	2	0,13	0,36	-2,33	6,34

Source: made by author

The parameters of the ECOMOTIVE variable are in accordance with the parameters of its 7 particles from the previous table. The average motivation for the economic reasons of emigration is very high,
and even 147 out of 353 subjects responded with a maximum score of 3 on all 7 particles (Max = 3). However, certain number of emigrants answered all 7 particles with a minimum score of 1 (Min = 1), which leads to questions about motives for their emigration. A more detailed analysis of the matrix of original data reveals that out of the total number of respondents, seven gave an average rating of the ECOMOTIVE variables less than 1.5. Of these, five are women and two men, six of whom are under 30 and one over 30. The assumption is that the most likely reason for the emigration of these respondents is marriage, but it should certainly be discovered in future research with certainty that this is the reason for emigration that almost completely excludes economic motives.

The dispersive parameters of the ECOMOTIVE variable are lower than on the individual variables, and asymmetry and curvature parameters indicated that the distribution is negatively asymmetric and leptocurare. The graph below shows the distribution of results on the ECOMOTIVE variable.

Chart 2: Frequency histogram for the variable ECOMOTIVE
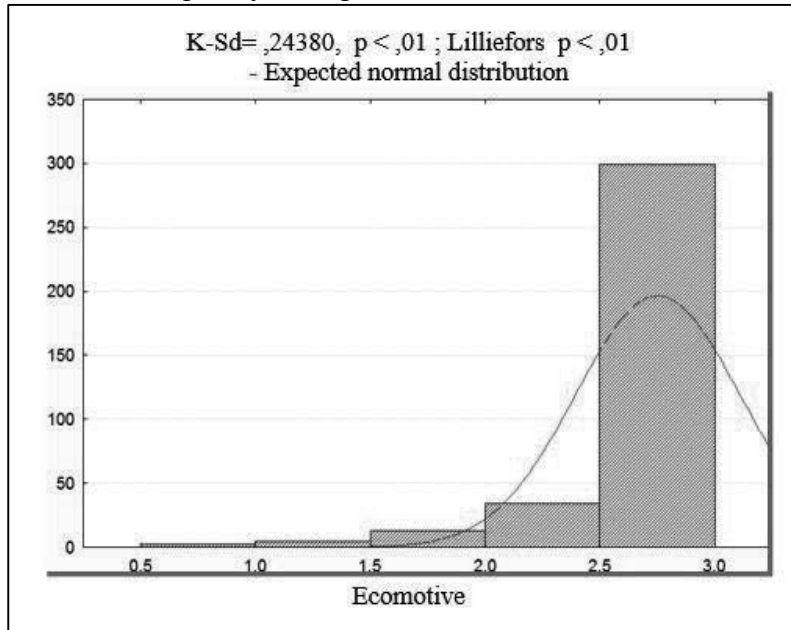
Source: made by author

From the chart 2. it is obvious that the distribution of results by the EKOMOTIVE variable deviates noticeably and significantly from the distribution normality, which is confirmed by the Kolmogorov-Smirnov and Lilliefors test, with an error of less than 1% (p <0.01). On the contrary, distribution is exponential, which only confirms the findings so far that the vast majority of emigrants are dominantly motivated by the economic reasons they have emigrated. After the basic statistical parameters have been established, the question is whether there is a difference and whether it is statistically significant among emigrants with regard to gender and age and with regard to gender and education. Tables 4. and 5. show the frequencies of respondents in each category, and the result of Bartlett's χ^2 –test and the level of its significance.

Table 4: Hi square ; gender – age

$\chi^2 = 3,40$ $p > 0,05$	- 30	30+	Σ
M	107	79	186
F	112	55	167
Σ	219	134	ΣΣ=353

Source: made by author

The table 4. shows that the number of male and female respondents is roughly the same, as well as distribution by gender and age. However, over the age of 30, it is noticed that there are slightly more male emigrants. Overall, about two-thirds of emigrants are under the age of 30. Although the table shows that in the population of emigrants in the relative majority men are older than 30 and women under 30, the difference obtained is not statistically significant with an inference error of less than 5%.

Table 5: Hi square; gender – education

$\chi^2 = 11,48$ $p<0,01$	S	H	Σ
M	117	69	186
F	75	92	167
Σ	192	161	ΣΣ=353

Source: made by author

The table 5. shows that there are slightly fewer respondents with higher education, and it was mentioned earlier that this data is of great importance regard to the actual number of university graduates. However, it is much more interesting that, unlike the male respondents, the majority of female respondents are highly educated emigrants (92 to 167 = 55%). This surprising data shifts the result of the hi-square test to high $\chi^2 = 11,48$, which is a statistically significant difference with an inference error of less than 1% (p <0.01). Highly educated women are clearly extremely dissatisfied with their position in society and they are therefore looking for a way out in emigration, where they expect dominantly higher wages, better working conditions and generally better living conditions that are appropriate for a highly educated woman. Certainly, in some future research, the reasons for such a large number of highly educated emigrants should be revealed in more detail.

T – test

Two assumptions will be made for the test:
H_0: with error p we cannot claim that differences between different categories of respondents are statistically significant according to the economic motive for emigration
H_1: the difference between different categories of respondents according to the economic motive for emigration is statistically significant with the error p

The significance level of the test was set at p = 0.05. So, if the level of significance of the test is less than 5% (significance level of 5% is equal to the 95% confidence), it will be rejected the assumption H_0 and will be accepted the alternative hypothesis H_1, ie there will be significant differences in the ranks of the observed parameters to economic motive for emigration. If the significance is greater than 5%, H_1 will be rejected and H_0 will be accepted, ie there will be no statistically significant difference in the ranks of the observed parameters according to the economic motive for emigration.

Which categories of respondents are more motivated to emigrate, and whether the differences between the various categories of respondents statistically significant, it was determined by Student's t-test. The results are shown in the table below.

Table 6: T-test; gender, age i qualification (n – number of respondents, AM - arithmetic mean, SD - standard deviation, t - t-test value, p - probability of inference error)

	VARIABLE	CATEGORY	n	AM	SD	t	p
ECOMOTIVE	GENDER	M	186	2,76	0,31	0,60	0,55
		F	167	2,74	0,40		
	AGE	-30	219	2,77	0,37	1,29	0,20
		30+	134	2,72	0,35		
	QUALIFICATION	S	192	2,78	0,33	1,56	0,12
		H	161	2,72	0,39		

Source: made by author

In the table 6. are extremely interesting and somewhat unexpected values of arithmetic means and standard deviations of all measured categories of respondents on the variable ECOMOTIVE. All categories of respondents have almost identical average and standard deviation, which means that they almost completely agree on the economic motives for emigrating from the Republic of Croatia. Regardless of gender, age and education level, all participants have equal and high economic motivation to emigrate. The t-test is not statistically significant for any of the nominal variables. From all the above it can be concluded that the H_0 is confirmed.

4. Conclusion

After the statistical data processing, it can be concluded that all economic motives played a large role for leaving Croatia. The condensation of the results of seven variables of the motive arithmetic means obtained the ecomotive variable, which is exponentially distributed, which further confirms that economic motives play a large role in the overall motivation of the emigrants to leave Croatia.

Gender, age and educational qualifications differ little or have difference between emigrants by their motivation, and the differences obtained are not statistically significant. Although the differences between the respondents are very small among the individual motives, the largest motives for emigration are better living conditions, higher salary and better working conditions, while the least likely to have a career development and higher social security. The largest arithmetic mean and the smallest standard deviation on the life conditions variable suggests that work and everything related to it is not the only important factor that drives people outside Croatia, and there are potentially other factors such as 'socio-political' factors, which need to be discovered in future research The only viable solution to the problem of negative demographic trends is to create an environment for the working age population in Croatia, as well as a realistic investment framework for people in diaspora, who could initiate a sustainable return process to Croats who are now working abroad.

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A scientific paper

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RETHINKING CONTEMPORARY ROLE OF CARRYING CAPACITY IN DEVELOPMENT OF TOURISM DESTINATIONS

ABSTRACT

Carrying capacity in tourism is perceived as rather straightforward tool for enabling preservation of tourism resources, either natural or man-made. However, contemporary tourism research has been focused on sustainability issues, dazzling the fact that two concepts are strongly interconnected. Therefore, the main objective of this paper is to rethink the importance of this concept in contemporary scientific research. The research is undertaken based on the available literature on carrying capacity in tourism. The aim is to conduct a comprehensive analysis of findings within this research field and to examine whether contemporary conclusions were adjusted to the increase in growth rates of tourism worldwide. Conclusions were tested on the case study of the Plitvice Lakes National Park in Croatia in order to determine how this concept is applied and used by local stakeholders.

The research conducted in this paper has confirmed that limitations of rethinking the concept of carrying capacity arise from the stage of tourism destination development and unreadiness of policy-makers to distance from quantitative approach and adopt overarching strategies of determining usage limits of a certain site. The research emphasizes main deficiencies of interpretation and potentials of carrying capacity in ensuring long-term quality of tourism resources. The occurrence of overtourism in destinations can be regarded as a result of inappropriate implementation of carrying capacity at destination level. It is therefore in the center of this research to determine the contemporary role of this concept in the process of developing sustainable tourism destinations.

Key words: *Carrying capacity, Sustainable tourism development, Tourism destination, Limits to growth, Croatia.*

1. Introduction

There is no argument that tourism development has brought in numerous changes in destinations worldwide. As in some of them those changes were disrupting the livelihood of local communities, the need to impose limits to growth arose. For a long time it was considered that one of the most effective tools in overcoming potential problems with deterioration of natural habitats is defining the carrying capacity of a given area. However, the concept of carrying capacity has been adjusted to contemporary changes and thereby its role and form have accordingly been altered significantly. Nevertheless, the fundamental purpose of this concept has remained the same, and it is to determine limits of pressure on a certain tourism area, however its value is defined. In that sense, the aim of this research is to analyse whether contemporary theoretical findings can be implemented into tourism area's development strategies and *vice versa*. Additionally, the purpose is to examine whether the concept of

carrying capacity is applicable to contemporary tourism destinations and development strategies.

According to O'Reilly (1986, 254), one way of defining the concept of carrying capacity is to consider it as the breaking point for tourists as they will decide to choose alternative destination once the limits perceived by them as crucial are exceeded. With the beginning of more intense increase of international tourist arrivals and emergence and development of tourism destinations, carrying capacity seemed as a rational solution and useful tool for determining maximum pressure on destinations. However, the specific nature of tourism destination and exploitation of its resources makes it difficult to define precise maximum number of tourists consuming the same service at the same time. Additionally, nowadays the main question is not whether limits of accessible change are necessary, nor if some other tools of managing tourism resources could be used, the question is which tools are to be used.

One of the main concerns of tourism management within any destination has to be directed towards ensuring its long-term sustainability. For a long time it seemed that such state could be achieved primarily through determining carrying capacity of an area. In that way, all sustainability criteria would be optimized and balanced and tourism development would be enabled. However, the complexity of tourism as a phenomenon reflects itself on a complexity of implementing the concept of carrying capacity into development policies (Lindberg, McCool and Stankey, 1997, 461). It is in the focus of this paper to examine to what extend carrying capacity enables preservation of destination resources and local community's quality of life, while simultaneously defining major obstacles of its implementation into development policies. The objectives of the paper are to conduct thorough critical analysis of tourism carrying capacity theory and its adaptation to contemporary changes in the environment; to identify key obstacles of implementing the concept into development strategies; and to analyse the effectiveness of the concept through the case study of the Plitvice Lakes National Park in Croatia.

2. Theoretical background

Sustainable tourism development within destinations strongly depends upon the carrying capacity of resources. When used by tourism researchers and managers, this concept refers to the maximum number of people that can use an area without there being any unacceptable decline in the quality of the visitor experience or the environment (Wall, 2001, 72). As it is not beneficial or sustainable for destinations to develop tourism as a single economic activity, carrying capacity determined for the purpose of tourism development must enable other businesses to engage the same resources and to produce different goods and services. Tourism provides opportunities for including different resources into business processes, enabling destinations to have more possibilities to yield additional revenues. Such expansion usually assumes that tourism resources are utilized more intensively in the process of creating products and services. Hence, the implementation of sustainable development theory in general and carrying capacity concept in particular represents crucial breaking point in ensuring preservation of resources in the long run. "If sustainable development principles are included in development plans in anything more than name only, they are normally couched in vague terms which are long on emotion and short on specifics" (Butler, 1999, 16). The success of this process, however, depends on the ability of local government to develop and adopt development policies that are based upon sustainable tourism criteria.

To understand the term carrying capacity it is necessary to firstly address its primary meaning. Even though it is widely used now in many disciplines, tourism not being different, its origin can be traced in biology, with the emphasis on physical capacities of an area and access to scarce resources. Merriam Webster defines carrying capacity as the maximum pressure on the area without negative consequences on the environment (Merriam Webster, n.d.). This general approach seems quite reasonable if one considers the influence of increased number of tourist arrivals worldwide. Largest tourist attractions have already taken this approach into consideration and have embraced and developed visitor management tools, ensuring not only preservation of resources, but also high level of visitor satisfaction and their safety (examples can be found worldwide, some of them are Eiffel tower, London Eye, Sagrada Familia, Alcatraz, Statue of Liberty, etc.). In the centre of this specific idea, physical limits of an area have been put in the focus, but other aspects of sustainability have also been addressed. One of the main reasons why tourism carrying capacity did not yield desired results and was not implemented more extensively lies in the fact that it was dominantly oriented towards preserving tourism resources, not so much on the quality of life of the local community, which has indirectly led towards the concept of overtourism in destinations.

2.1. The concept of carrying capacity in tourism

As a fundamental concept in natural resource management, carrying capacity reflects the maximum level of use that an area can sustain as determined by natural factors such as food, shelter and water (Newsome, Moore and Dowling, 2002, 153). If we adopt this statement into tourism theory, it is easily concluded that physical carrying capacity refers to the maximum number of tourists at the same place and the same time. However, it is crucial to note that the most important presumption of tourism development is to ensure improved and sustainable living standard for the local community. Local community's needs have to be satisfied primarily and potential tourists' level of satisfaction can be taken into consideration afterwards (e.g. Canestrelli and Costa, 1991). Additionally, it needs to be emphasized that even though both hosts and guests have seemingly equal rights and opportunities in using the infrastructure during the season, the burden of its maintenance during the off-season is put dominantly on local community. The concept, however, is not without limitations, especially in the context of contemporary changes on tourism market.

There is a constant struggle to balance the need to determine numerical carrying capacities and to apply them in the real life (McCool and Lime, 2001, 373). According to these authors, it is less important to determine how many tourists can simultaneously visit one area, but it is rather important to define desirable or appropriate conditions (social and biophysical) at a destination. It seems as though theory and practice are often in discrepancy, not realising that they have the same objective. As Butler (1996, 289) claims, it is less important to impose limits on the overall number of tourists, it is more important to manage their activities within destination. Therefore, it would be rather simple, but inaccurate to claim that once calculated, carrying capacity is beyond questioning.

The increase in research on carrying capacity was witnessed during the decade of the 1960s, primarily by geographers (Butler, 1996, 285). After the 1980s, however, it became evident that quantitative approach is not as effective as it was expected to be (McCool and Lime, 2001). Even though physical carrying capacity is a parameter used frequently by local stakeholders or, more specifically, resource management, there are certain doubts about using this measure in practice. Usually authors (e.g. O'Reilly, 1986; Zhang *et al.*, 2017) tend to analyse carrying capacity through the prism of its physical impact on visitors' satisfaction, very often related to

amusement park management. Although that is more than legitimate perspective, various stakeholders consider different impacts of tourism development on destination's resources. The many dimensions of carrying capacity – physical, ecological, psychological, social and economic – further complicate the measuring process (Liu, 2003, 469). Perceptual carrying capacity, for instance, "refers to the social experience values originally inherent in the site; these may be eclipsed before physical carrying capacity becomes problematic" (Gartner, 1996, 139). Determining a single numerical value has far less effect that determining Limits of Accessible Change. Garrigós Simón, Narangajavana and Palacios Marqués (2004, 277) list the key issues related to the process of measuring carrying capacity, all of which have initiated the necessity to move beyond the human need to express ourselves numerically and to think in terms of limiting our pressure on the environment.

Each method of determining carrying capacity has certain limitations. Alternatively, it is possible to identify six basic interpretations or methods of determining capacity to absorb tourism (Getz, 1983): tangible resource limits; tolerance by the host population; satisfaction of visitors; excessive rate of growth or change; capacity based on the evaluation of costs and benefits; and the role of capacity in a systems approach. Additionally, Prato (2001, 322) emphasizes that there is a shift in the focus of defining carrying capacity, moving from the number of visitors to including other factors, such as biophysical characteristics of a protected area, social factors and management policies.

It was crucial for researchers to allow themselves different, much broader research approach to this issue. Wall (1982, 191) has provided diverging interpretation of this concept, stating that it has two components – a biophysical and a behavioural component. Such interpretation raises additional questions, as it is related to highly sensible problem of determining the meaning of "unacceptable" deterioration of both physical surrounding and quality of the experience. The second component disables implementation of quantitative approach into the carrying capacity concept. Tourism is highly complex research area in this sense and the reasons for that can be found in human nature and scientific approach to defining measuring models. We try to express ourselves mathematically whenever possible, which in a way prevents social sciences to move forward, as this approach is too narrow in this case and its usefulness becomes questionable (Capra and Luisi, 2014, n.p.). Indeed, it is in human nature to put the exact limits in the process of resource exploitation. Nevertheless, Wall (1982, 192) argues that if we use the concept as a means to reach a number that is seemingly non-existent, all our research efforts are futile.

Nowadays tourism destinations are involved more intensively in defining policies for implementing sustainable strategies into development plans. What is more, the research addressing sustainable tourism development and carrying capacity is interrelated and oriented towards defining impacts on local level (Castellani and Sala, 2012; Salerno *et al*., 2013; Saarinen, 2014). Therefore these two concepts should be in a way merged, consolidated and raised to a higher level in order to create more sustainable environment for both local communities and tourists.

2.2. The shift in the concept approach

Carrying capacity reflects not only present conditions of an area, but it is strongly related to numerous future limitations. "Carrying capacity estimates involve making predictions about future trends in demography, resource availability, technological advances and economic development" (World Population History, n.d.). Moreover, despite the increase of uncertainty on tourism market (e.g. terrorism, politics, diseases, economic influence, etc.) and demographic

changes, tourism proved to be quite resilient to numerous uncertainties on the market (Aramberri and Butler, 2005, 297). Even though new destinations and new generating countries constantly emerge on international tourism market, there is still strong influence of polarisation and regionalisation of international flows and, more importantly, tourism receipts (Sharpley, 2000, 10). It could easily be concluded that tourism destinations with high tourist density will retain their market position. The most important step in that process is to determine usage limits in order to coordinate all stakeholders within the same destination.

Numerous destinations in Europe are faced with the question of overtourism and the ever-growing issue of managing tourist arrivals, especially in the sphere of same-day visitors. Most prominent example is Venice, but also some other well-known destinations can be emphasized, such as Barcelona, Amsterdam or Budapest. The concept of overtourism assumes that there is too many visitors on a particular site or in a particular destination (Responsible Travel, n.d.). As a consequence of pro-growth strategies and deterioration of tourism resources, local communities take proactive role in the process of limiting the number of tourists (Koens, Postma and Papp, 2018; Namberger *et al*., 2019; Smith, Pinke Sziva and Olt, 2019). It can be argued that, despite the similarity between the concept of carrying capacity and overtourism, the main difference lies in the level of involvement of local community when it comes to willingness to limit the number of visitors, or at least in managing their spatial and temporal dispersion. Overtourism is contemporary reaction to the exceeding number of tourists in a particular destination, and even though it is being extensively researched nowadays, it was long ago clear that the former development strategies have had only economic growth in focus. This has led to utterly unsustainable environment, which is no longer beneficial for local communities (Koens, Postma and Papp, 2018; Seraphin, Sheeran and Pilato, 2018; Milano, Novelli and Cheer, 2019; Namberger *et al*., 2019; Oklevik *et al*., 2019; Smith, Pinke Sziva and Olt, 2019). Changes are necessary and they have to be initiated at personal level, arising from the positive shift in the awareness about the importance of sustainable, enlightening environment. "The issue attracts attention to the need for careful planning and management of tourism, as well as respect for the well-being of the permanent residents of tourism destinations, which will be ongoing preoccupation of both researchers and managers" (Wall, 2020).

At one point the researchers had to adopt a switch in the approach, allowing carrying capacity to be considered as a concept dealing with the issue of acceptable levels of change, moving on from the need to impose limits on numbers (Butler, 1996, 288). Indeed, it seems rational to coordinate all stakeholders within a destination and to determine their needs for resources. However rational, this coordination is very often an obstacle in the whole process. Balancing all issues and needs within any destination is more often than not a political issue, a matter of manifestation of power. Therefore not always are resources within destination in general managed in optimal manner. Lindberg, McCool and Stankey (1997) have singled out three major limitations of carrying capacity concept: its definitions often provide little guidance for practical implementation; it is perceived as s scientific, objective concept; and it typically focuses attention on use level or number of visitors, yet management objectives typically relate to conditions. Summing up all deficiencies of carrying capacity concept in tourism, it can be concluded that there are numerous issues when it comes to operationalization of that concept within a chosen area. Complexity and interdisciplinary of tourism system have crucial impact on developing a methodology for determining carrying capacity within tourism areas. "As systems change, tourists adapt to some kinds of limits, it would be appropriate to re-examine not only the limits themselves but also the practices and tools applied for that purpose" (Coccossis and Mexa, 2004, 286).

Even though visitor crowding is another issue of destination management, it is not easily managed, as it relies on visitor origin and its relationship to crowding tolerance (Doorne, 2000, 119). Some tourism destinations assume large numbers of visitors as a part of the overall experience, but the main problem arises from the difficulty to determine their maximum impact (Manning *et al.*, 2002, 389). The critical point is to determine how many users can be considered as too much and which impacts on the environment should represent a breaking value. As Gartner claims, after the initial impact of tourists on vegetation, additional numbers of visitors do very little additional damage (1996, 141). These findings go along with the aforementioned twofold nature of carrying capacity – physical and behavioural. Even though crowding is dominantly a question of physical pressure on the environment, tolerance towards crowding has everything to do with behavioural component of human nature. This aspect is not easily defined, still less measured.

As it is possible to link the idea of visitor management with the theory of tourism carrying capacity, it has dominantly been applied to protected areas, since they are mostly affected by intensive tourism development. Mason (2005) has examined differences between 'hard' and 'soft' approaches to visitor management and came to the conclusion that it seems rational to adopt 'soft' approach and include visitor satisfaction into the process of making decisions about maximum number of visitors on site. To define useful and effective carrying capacity indicator, Kostopoulou and Kyritsis (2006) propose zoning as potential solution to the problem caused by high concentration of visitors at the same place. Finally, the problem can be narrowed down to the question of managing local community's interests on the one side and visitor satisfaction on the other side. Even though local interests must remain in primary focus and should not be neglected, tourists are the ones who bring in additional revenues into local economy and therefore their satisfaction must also be taken care of. Sustainable tourism development will depend on educating all stakeholders involved in the process, so that everyone will be aware of the consequences of our acts on the overall environment. That will allow easier understanding of stakeholders' roles, as well as their obligations and rights in the process of tourism exchange at destination level. In order to emphasize potential solutions to the problem of managing resources within the scope of tourism, Wall proposes several options that could directly or indirectly help in solving the problem of overtourism.

Table 1: Selected management options

Direct	Indirect
Impose entry/user fees and charges	Vary case of access
Restrict activities/equipment	Site design and manipulation
Impose participation requirements, e.g. permits and licenses	Type and degree of maintenance
Enforce rules and regulations	Provision of information
Designate sites for specific activities, e.g. camping	Environmental education/interpretation
Increase management presence e.g. more staff, patrols	Zoning
	Undertake research
	Limit ancillary facilities, such as parking spaces and accommodation

Source: Wall, 2020

Tourism carrying capacity is a concept not easily defined nor measured. Among its strengths, it is possible to outline limits it puts on the usage of an area, defining the maximum consumption of resources, creation of sustainable environment, psychological benefits for all users of an area,

sociological benefits for hosts and guests and the overall more positive climate of the destination. Despite these benefits, however, concept's weaknesses tend to prevail in the process of its implementation. To name the biggest challenges, those are the disability to express limits numerically, low level of awareness about its possibilities and potentials, legal boundaries, it relies on perception rather than on precise values, concept's adaptable nature, one-side approach, lack of holistic understanding and difficulties in comprehending the specifics of its implementation.

3. The issue of carrying capacity in Plitvice lakes national park

Plitvice Lakes is the oldest and most visited national park in the Republic of Croatia. The Lakes were inscribed onto the UNESCO World Heritage List in 1979. The Park is primarily covered in forest vegetation, with smaller areas under grasslands. The most attractive part of the park (the lakes) covers just under 1% of the total park area, while the whole park covers the area of 300 km^2 (Plitvice Lakes National Park, a).

Even though inscription onto the UNESCO World Heritage List is a matter of prestige, it almost inevitably assumes increase of visits to the site, ultimately raising a question of sustainable development. Numerous researches have addressed this issue (Starin, 2008; Frey and Steiner, 2011; Pyburn, 2014; Adie, Hall and Prayag, 2018), all stressing the main concern associated with commercialization of resources, both natural and cultural. The increase in the number of visitors in Plitvice Lakes is registered annually and the peak season is assigned to the period from June until September, as presented in Table 2. Such situation represents significant challenge for resource management. High pressure of visitors, primarily international, during July and August assumes substantial intervention in natural processes, however controlled they might be. The main factors affecting this property in 2018 were air pollution, impacts of tourism/visitor/recreation, major visitor accommodation and associated infrastructure, surface water pollution and water (extraction) (UNESCO, a).

Table 2: Visitors of Plitvice Lakes National Park

Month	2018	2017	2016	2015	2014	2013
January	17,485	16,440	10,587	10,175	4,189	2,727
February	11,925	13,854	10,206	6,789	3,435	2,629
March	38,708	34,063	29,936	23,100	18,440	12,233
April	122,506	110,150	67,650	69,429	66,197	53,944
May	199,904	170,433	150,568	146,477	130,567	128,439
June	234,633	243,426	181,656	185,961	162,112	149,679
July	313,254	334,081	274,503	257,102	217,569	252,558
August	370,067	384,886	346,248	328,294	292,221	314,614
September	261,307	237,855	218,282	197,809	157,326	179,813
October	172,576	126,309	101,319	102,007	108,728	75,704
November	35,911	29,609	23,319	19,346	16,795	11,728
December	21,627	19,225	14,954	10,815	6,870	4,730
TOTAL	**1,799,903**	**1,720,331**	**1,429,228**	**1,357,304**	**1,184,449**	**1,188,798**

Source: Tourist Board of Plitvice Lakes Municipality, 2018, 6

Based on the presented data it is possible to conclude that even though there was rather small increase in the number of visitors in 2018 when compared to 2017, the increase in the 6-year period is substantial and implies that more effective tool for managing visitors is needed. However, the main issue with carrying concept is related to the question of usage limits and visitor satisfaction. Therefore it is more appropriate to analyse some other aspects of absorbing tourists within that national park. The analysis in this paper is based upon Getz's (1986)

methodology. This methodology was chosen as it in a way serves as a critique to former understanding of carrying capacity theory and enables analysis of management issues within an area. The case of the Plitvice Lakes National Park is an appropriate example for this analysis as it is faced with numerous problems arising from overtourism and inadequate visitor management tools that are being modified and adjusted to current issues and changes on the market. The methodology is used in order to examine availability of necessary data and appropriateness of an area for implementing visitor management tools. Based on the available data, case study is conducted.

Tangible resource limits

When defining tangible limits of tourism resources, Getz (1986, 245) identifies them in terms of financial support, labour, housing for workers, services for recreation and entertainment, the administration of development, and its planning. Simultaneously, he raises the question of overcoming different limits, as neither of the mentioned has unsolvable problems with exceeding limits of inevitable destruction. Even though this natural area relies strongly on the quality of its resources, the question of the number of visitors proved to be not as important as the question of whether supporting resources can handle such intensive tourism development.

One of the problems that arise from the current management strategy of the Park is the absence of clearly defined resource limits within the carrying capacity of the National Park (Plitvice Lakes National Park, 2007). Such situation disrupts potentials for preserving natural base, as it is difficult to maintain quality of resources in a competitive environment, especially without a clear vision about the future strategies. Due to potential deterioration of the environment and nature in protected areas because of more intensive tourism growth, the crucial aspect is to determine carrying capacity and to adjust management strategies accordingly (CAEN, 2015, 88). Whichever term is used in order to determine potentials of resources and limits of its usage, the final objective has to be focused on ensuring sustainable policies.

Tolerance by the host population

Host population represents a key milestone in ensuring sustainable tourism product that is not to exceed the limits of a given resource. Namely, tolerance of the host community represents a crucial factor in determining the potentials of growth for a certain resource. Getz emphasises the importance of host population in the process of determining the types and amounts of growth and change, but simultaneously empowering those groups that are directly involved in exchange of tourism products and services (1986, 247). The area around National Park could be more intensively developed if there were strategies for stronger involvement of host community. Within the area of National Park, "constant growth in the number of visitors, together with the positive relationship between ecotourism and entrepreneurship, has enhanced the interest of local entrepreneurs who started their businesses in different segments of tourism" (Čavlek, Budimski and Ferjanić Hodak, 2014, 1842). During 2019 National Park has employed 460 seasonal workers due to the increased volume of business (Plitvice Lakes National Park, b). Even though such situation will improve the quality of life of local community in the short run, it is necessary to continuously engage local businesses into product development and to improve the overall quality of life.

According to the management plan of the National Park (Plitvice Lakes National Park, 2007), the intention is to educate local community, to improve their skills, to engage local crafts into local tourism product and thereby create more authentic tourism offer. One of the major

challenges for this community is the aging population, as according to population census (CBS, 2013, 16), the average age in the County in 2011 was 45.3 years, which is above national average, but more importantly, this is the "oldest" county in the country. In such environment it is occasionally difficult to maintain sustainability of tourism product as some crafts are almost inevitably going to extinct if the knowledge is not passed onto younger generations.

Satisfaction of visitors

Once a tourism resource gets involved in the creation of tourism product in any destination, the question of visitor satisfaction is raised. Even if the usage of resource is merely near the upper recommended level of carrying capacity for visitors, it can be considered as an indicator of reduced quality of experience for visitors (Zmijanović, 2016, 256). As already mentioned, different cultures have different tolerance towards the crowding on a site and therefore that aspect of visitor satisfaction cannot be universally applied. Furthermore, the presumption of limiting development or the number of visitors should exist only if visitors and potential visitors indicated the existence of a certain problem on site (Getz, 1986, 248). As previously mentioned, some destinations have determined exact maximum number of users on a specific site in order to increase visitor satisfaction and safety. Plitvice Lakes National Park, however, is more flexible in that respect as it covers rather large area and visitors can be guided through different routes, not affecting substantially each other's experience thereby. According to available reports, Park's visitors are least satisfied with gastronomy and the offer of activities within the park (Plitvice Lakes National Park, 2007, 51), but that aspect is manageable and is not the reason for minimising the integral experience of visitors.

In 2019 the Public Institution Plitvice Lakes has introduced visitor management tool for the first time, as a reaction to the growing number of visitors during the peak season. Each day a fixed number of tickets is available per hour and visitors must purchase tickets at least 2 days in advance if they use online system (Plitvice Lakes National Park, c). Such approach is extremely beneficial for environmental capacity of the Park; it serves as a tool for distributing visitors both temporally and spatially; is oriented towards ensuring safety and security of visitors; and in the end, it has positive impact on the overall satisfaction of visitors. As this is the first time to introduce this tool, its effects are yet to be registered and evaluated, but the Park management has taken a first step towards enabling positive, less congested environment for the local community, less pressure on natural resources and ensuring quality experience for visitors. Additionally, it limits the number of tourists per hour to a little more than 1,000, which is determined by the size and frequency of boats and trains in the Park, but also with the size and width of trails.

Excessive rate of growth or change

According to data in Table 2, the Park has witnessed rather intensive growth in the number of visitors and the local infrastructure was not completely prepared for such situation. However, that has provided both opportunities and challenges for local businesses. Despite the high potentials, any physical resource might be overloaded, especially in the case of too rapid changes in traditional societies (Getz, 1986, 249). Even though contemporary approach to carrying capacity assumes addressing each of its aspects, the Park primarily relies onto its natural resources. As such, excessive growth could cause irreparable damage and would disable future tourism exploitation. What is more, the Park has dealt with certain problems that might place it on the World Heritage in Danger List by the UNESCO. More precisely, UNESCO was concerned about "the significant expansion of tourism facilities within the property and the fact

that the concerns of the management authority of the property with regards to the procedure for issuing construction permits have not been addressed by the relevant planning authorities" (UNESCO, b). Restricting tourism growth and developing an official Spatial Plan proved to be strategic actions for Public Institution in charge of the Park.

It seems irrational and inaccurate to claim that present tourism development is not beneficial for the Park to some extent, especially knowing that the Park is self-financed. Nevertheless, such situation puts additional burden on the Park management to balance key pillars of sustainability in order to sustain excessive growth. Enlighted mass tourism provides opportunities for adjusting desired growth rates to contemporary social requirements.

Capacity based on the evaluation of costs and benefits

Many researches and approaches have been addressed to try to cope with the issue of overtourism in the Plitvice Lakes National Park (e.g. Movcăn, 1982; Ivanus, 2010; Marković, Pejnović and Boranić Živoder, 2013). Public Institution has also been dealing with the same. One solution has been implemented, and it was related to the issue of entrance fee. According to Gartner, charging an entrance fee might not always be sufficient in the process to restricting the use to the carrying capacity level (1996, 142). During the last several years, however, the Park offers reduced fee for domestic tourists during the off-season. This policy was introduced simultaneously with the increase of fees during the high-season, which had negative impact on one share of domestic visitors, but was not received negatively by international visitors, as confirmed by the total growth rates. Number of visitors in October was significantly increased in 2017 and especially in 2018, as notable in Table 2, and it proved to be a reasonable measure for overcoming challenges that arise from large numbers of visitors during the high season.

It seems more than reasonable to make different calculations for a site, one quantifiable and the other one more subjective, examining the intangibles (Getz, 1986, 251). This approach serves as a rational solution for challenges that arise in this Park. Taking into account that it is highly sensitive natural area, some quantified restrictions must be imposed, in terms of physical boundaries. The same is required by the UNESCO. But the issue of visitor satisfaction and many other factors could be dealt with through the offer of additional products and expanding the possibilities of activities in the Park, promoting new products and enhancing the safety of guests. Combining the two approaches is expected to yield success in the future, as there is lack of appropriate quantitative measure in the present management plan of the Park.

The role of capacity in a systems approach

A systems approach requires the full integration of two concurrent streams of activity – general research aimed at understanding the system and the application and evaluation of controls exerted on the system (Getz, 1986, 253). For the success of implementation process it is necessary for all stakeholders to understand their role and to be aware of the complexity of this approach. Not each stakeholder will be able to maximise its interests if the outcome is limiting the number of visitors. Indeed, this once again raises the question of sustainability, confirming the bond between these two concepts. Even though short-term increase in financial benefits seems appealing and quite often as the best solution, sustainable balance assumes completely different approach. This is something that all stakeholders must understand and accept if systems approach is to be adopted.

There is a certain discrepancy between national and local interests within the park, something that has also been recognized by the UNESCO. Such situation is extremely demotivating for local businesses and cannot enhance local cooperation. In terms of defining limits of accessible change, it is generally accepted that all stakeholders' interests and objectives must be taken into consideration. If the area of National Park were an isolated site, it could be argued that determining physical capacity, as an isolated measure, could be appropriate. However, this is not the case with this protected area, as it has strong influence on developing the surrounding environment. Hence, a systems approach proved to be optimal solution for overcoming the growing number of obstacles and implementing long-term sustainable policies that would be appropriate for preserving both natural habitat, socio-cultural heritage and interactions and, just as importantly, economic stability and self-sufficiency in revenues that would boost the local economy by integrating local products and stimulating local businesses.

As a comparison to the Plitvice Lakes National Park, the Krka National Park has also introduced visitor management tool in 2017 and has implemented it successfully (Krka National Park, a). However, certain differences between these two Parks exist, first of all in the number of entrances – while in the Plitvice Lakes only 2 entrances exist, Krka has 10 entrances, which enables much more effective spatial dispersal of visitors. The area of Krka National Park is 109 km^2, which is much larger that the area of interest in the Plitvice Lakes (Krka National Park, b). Even though these two National Parks are seemingly the same in terms of managing visitors, they differ in size, number of visitors, impacts of overtourism in the Park, satisfaction of visitors, etc. However, the purpose of introducing the tool is the same – to preserve the natural resource, improve the quality of stay of visitors, ensure sustainability of the site and achieve overall satisfaction of all stakeholders included in the process of tourism development in each of these National Parks.

Finally, it has to be noted that the research conducted for the purpose of this paper is based on secondary data and that stands as its basic limitation. Future research should provide more precise and accurate data about tangible resource limits and tolerance by host population in order to be able to provide holistic insight into the appropriateness and efficacy of the concept in the Plitvice Lakes National Park. All stakeholders should be given opportunity to take part in the research so that a systems approach could be implemented.

4. Discussion and concluding remarks

Carrying capacity proves to be rather troublesome concept in tourism theory. Even though it seems easier to impose certain restrictions on usage of resources, it was long ago proved that a single value is not sufficient measure for managing resource preservation. Complexity of tourism system is significant barrier in determining to what extent certain site can be utilized. Moreover, tourism density is treated in a different manner on a natural and a cultural site. Therefore different approaches to the issue have to be implemented.

The relationship between tourism destination life cycle and the presence of the concept of carrying capacity seems to be quite strong. Hence, the higher the level of tourism development, the lesser the need to quantify carrying capacity. Even though certain limitations have to be determined, there is a strong influence of limits of accessible change and the question of usage limits. As determined previously, once the first visitor disrupts natural habitats of the site, the damage has been done. Afterwards only the question of diminishing negative impacts remains, in a sense that benefits for the local community are maximised, satisfaction of visitors is ensured, while resources are preserved. Political influence of local government is of high

importance in this step, especially if it is not coordinated with national policies. Due to political discrepancies, some sites are destined to exceed their limits and result with unsustainable development, potentially losing their market share in the future as a consequence of substitution effect in tourism.

The Plitvice Lakes National Park can be listed as an appropriate example for introducing more flexible methodology for determining limits of accessible change within a particular natural site. In the past, Park management has put virtually no restrictions on the usage its resources, while nowadays it is introducing soft approach of managing visitors within the area. This has allowed inclusive, comprehensive understanding of impacts arising from tourism development on a specific site. In the process of developing tourism resources, the emphasis is usually put on the growth, i.e. increase in the number of visitors on site. Even though it is claimed that no growth should be restricted, the focus must be shifted on sustainable development of resources and destinations.

There is no doubt that Plitvice Lakes National Park is highly attractive, renowned natural resource with recognisable international image, which has strong impact on its desirability and increasing the number of its visitors. This, however, has led to overtourism as negative consequence of tourism development based on pro-growth policies. As much as it would be easy to claim that problems could be diminished with determining a single numerical value in terms of limiting the number of visitors, that measure alone would not be as efficient as expected. All other criteria analysed in case study must also be met and soft approach should also be consulted. By combining the theory of carrying capacity and visitor management it is possible to expect a decrease in the pressure of visitors on natural environment. Even though it is easier to control human behaviour if we have precise measure to follow, this prevents holistic understanding of an area's potentials and further growth and development on site. If a concept has not been effective in its basic idea, we should put it deficiencies into contemporary context and upgrade its potential to improve life quality of local community.

Among the main obstacles of carrying capacity concept being successful are the lack of understanding of the concept, arising from the narrow approach; insufficient knowledge about tourism resources' potential; underestimating sustainable tourism development concept; concentration on short-term benefits, dominantly financial; discrepancy between national and local development strategies; lack of cooperation on all levels; and unfavourable demographic structure of local community. None of these, however, are obstacles that could not be resolved. Based on the available data, physical restrictions could be imposed quite easily, but that measure alone would not yield desired results in the long run. Encompassing approach would enable more intensive focus on all aspects of development and carrying capacity would obtain another dimension, moving on from the traditional approach focused on quantified values to determining limits of usage that will be focused on integral experience of visitors while simultaneously preserving quality and uniqueness of tourism resources. That would allow creation of sustainable environment oriented towards achieving optimal living environment for local communities.

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PROTECTION OF CHILD'S RIGHT TO A HEALTHY ENVIRONMENT IN CONTEXT OF LOCAL DEVELOPMENT

ABSTRACT

One of the basic prerequisites for a healthy and safe development of a child is certainly the protection of the natural environment. The Constitution of the Republic of Croatia prescribes that the right to a healthy life is the right of every person and that everyone is obliged, within the limits of his / her authority and activities, to devote particular attention to the protection of human health, nature and the human environment. It is the duty of the State to ensure the conditions for the protection of the environment, as a presumption of the protection of the health of every human being, and taking into account that children constitute a particularly vulnerable group of society, protection and realization of their rights should be approached with particular care.

It has been more than 30 years since the adoption of the United Nations Convention on the Rights of the Child (CRC), which contains provisions that explicitly and implicitly relate to environmental protection and stipulates that all signatory countries will direct the education of children towards the development of respect for the natural environment. As far as individual action is concerned, the most can be done through local environmental activities, respecting bottom up approach in order to achieve better regional and national results.

Taking all of the aforementioned facts into consideration, this paper will examine actions undertaken by the City of Osijek, which are, in accordance with its competencies, aimed to protect the child's right to a healthy environment, as well as activities related to the education of children that promotes natural environment. After discussing the activities to date, suggestions will be given for possible further action aimed towards better protection of the child's rights to a healthy environment based on better institutional integration of science and practice in this area.

Key words: *healthy environment, child, protection, institutions, local development.*

1. Introduction

In the past few decades awareness and concern about the need for healthy environment has increased dramatically (Dixon *et al*, 2011, 441), and rapid growth of interest for children's environmental health is clearly visible in the past years (Landrigan, Etzel, 2013, 4). Eurobarometer surveys on public attitudes[1] of respondents in the European Union regarding

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[1] Available at https://ec.europa.eu/environment/eurobarometers_en.htm (accessed 27 January 2020)

the environment confirmed that Europeans continue to express high levels of concern about the environment and to see it as an issue that affects them personally. As it has been confirmed in last report, this finding have been consistent over the past ten years, and there is very little variation between socio-demographic groups.[2]

It is clear that a healthy environment is a prerequisite for the safe and healthy development of every child. The subject of this paper is a scientific analysis of the child's environmental rights protection standards in the context of local development. Considering that environmental law is a highly regulated legal area, the analysis will mainly be limited to legal consideration of the interdependence of a healthy environment and protection of human rights, with particular emphasis on the protection of the health of children.

As the environment can be studied vertically from global to local level, and contemporary development certainly enhances the inclusion of sustainability, the focus of this paper is local sustainable development. Furthermore, there are numerous examples that can support the active role of children in the sustainability of local development, as well as the creation of future proactive citizens, and the results of theoretical analyses of selected authors are presented below, pointing to a significant positive effect of the program on local environmental awareness. Also, important features of the environment that can favor a child's healthy development are highlighted, as well as the necessity of local experience in order to create a local community that is child-friendly.

Under the principle of "think globally, act locally", we have focused our scientific work largely on analysing existing tools, but also on developing new ones to protect children's rights to a healthy environment in the City of Osijek. In this regard, we contacted the representatives of the City of Osijek to to gather information on the activities of the City in the area of protection of the child's right to a healthy environment and analysed documents that systematize these activities, which will also be presented in the paper. In conclusion, this paper points to the inconsistency of national educational standards established by the relevant legal norms with the requirements of the United Nations Convention on the Rights of the Child[3] (hereinafter: CRC) in this area and *de lege ferenda* proposal for their harmonization. Finally, some specific proposals are made for institutional linking of the local authorities of the City of Osijek and educational institutions in order to create new mechanisms for greater protection of children's rights to a healthy environment at the local level.

2. Legal considerations

2.1. Constitution of Republic Croatia

The preservation of nature and human environment in the Constitution of the Republic of Croatia[4] (hereinafter: the Constitution) is determined as one of the highest values of the constitutional order of the Republic of Croatia (Article 3). It is a fact that at the beginning of the 21st century constitutional values are an expression of global values and that they should be

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[2]However, there are differences between countries; for example, respondents in Sweden and Cyprus are more than twice as likely as those in Croatia and Poland to say that protecting the environment is very important to them. See European Commission Report Special Eurobarometer 468 - October 2017: "Attitudes of European citizens towards the environment", p. 155., available at: https://ec.europa.eu/environment/eurobarometers_en.htm

[3]Convention on the Rights of the Child, 20 November 1989, United Nations, Treaty Series, vol. 1577

[4]Constitution of the Republic of Croatia (Official Gazette no. br.56/90, 135/97, 08/98, 113/00, 124/00, 28/01, 41/01, 55/01, 76/10, 85/10, 05/14)

established both globally and nationally. That is why in the spectrum of all those constitutions that speak about nature, environment and their protection, including the Croatian Constitution, there is increasing talk about the need to harmonize values, in this case the values of the environment and other relevant constitutional values, primarily rule of law (Bacic, 2008, 742). The Constitution stipulates that everyone has the right to a healthy life (Art. 70 (1)). The state provides conditions for a healthy environment (Art. 70 (2), and everyone is obliged, within the scope of their authority and activities, to pay particular attention to the protection of human health, nature and the human environment (Art. 70 (3)). Until 2001 there was a constitutional provision on "the right of citizens to a healthy environment." In 2001, the constitutional amendments to the obligation of the state to ensure the right of citizens to a healthy environment were replaced by the obligation of the state to ensure conditions for a healthy environment. Although the Constitution does not refer specifically to the protection of this right as a child's right, the Constitution obliges the special protection of children and gives them the right to a decent life (Art. 63i and Art. 65 (1)). So, these constitutional determinations should also be interpreted in the context of the rights and duties of the state and individuals in environmental protection. It is also important to emphasize that childcare, as well as the protection and promotion of the natural environment, are explicitly referred to in the Constitution as competence of local self-government units (Art. 129a).

2.2. International and European standards of protection of (child's) right to healthy environment

When it comes to protecting children's rights at the international level, the CRC, the most widely ratified human rights treaty and the primary source of protecting children's rights, is certainly starting point of any analysis. There is no explicit protection of a child's right to a healthy environment under the CRC, but the protection of this right is linked to many other CRC-protected children's rights, notably child's right to health, but also child's right to life, survival and development, child's right to water and sanitation etc. Art. 24 (2) CRC proscribes that States shall pursue full implementation of child's right to health and, in particular, shall take appropriate measures to combat disease and malnutrition, including within the framework of primary health care, through (...) the provision of adequate nutritious foods and clean drinking water, taking into consideration the dangers and risks of environmental pollution. Art. 29 (1) CRC obliges States Parties to direct education of the child to the development of respect for the natural environment.[5] Art. 3(1) CRC proscribes that in all actions concerning children the best interests of the child shall be a primary consideration. As stated by the UN Committee on the Rights of the Child in its General Comment on implementing child rights in early childhood[6] all law and policy development, administrative and judicial decision-making and

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[5]As stated in Center for International Environmental Law Written Submission to the Committee on the Rights of the Child:„In recognition of the implicit and explicit linkages between the Convention on the Rights of the Child and environmental protection, the UN Committee on the Rights of the Child has addressed environmental issues in numerous occasions. The Special Rapporteur on Human Rights and the Environment has examined the Committee's work relating to a healthy environment in detail, and thus his report provides material evidence for the Committee's recognition of the right of the child to a healthy environment as implied in the Convention. (…) The Committee should thus articulate the right of the child to a healthy environment as implied in the Convention on the Rights of the Child in order to secure and enhance the Convention's effectiveness. The serious environmental threats confronting children and future generations call for the strengthening of legal tools that can secure the continued, positive impact of the Convention on children's well-being."Center for International Environmental Law Written Submission to the Committee on the Rights of the Child *The Right to a Healthy Environment in the Convention on the Rights of the Child,* available at: https://www.ciel.org/wp-content/uploads/2016/08/CRC-Submission-RtE-23-AUG-2016.pdf (10.02.2020.)

[6]UN Committee on the Rights of the Child (CRC), General comment No. 7 (2005): Implementing Child Rights in Early Childhood, 20 September 2006, CRC/C/GC/7/Rev.1

service provision that affect children must take account of the best interest principle. This includes actions directly affecting children, e.g. related to health services, care systems, as well as actions that indirectly impact children, where actions related to the environment are specifically stated. Article 12 CRC states that the child has a right to express his or her views freely in all matters affecting the child, and to have them taken into account. The voice of the child is also very important when it comes to protecting his or her right to a healthy environment. Therefore, when adopting measures to protect this right at the state and local level, we must not forget that children are actively involved in the promotion, protection and monitoring of their rights.

The development of awareness of the need to protect a healthy environment as a prerequisite for protecting not just children but human health in general has resulted in the rapid development of International environmental law in recent decades. International environmental law includes many treaties and declarations and some compliance mechanisms, as well as development towards the introduction of flexible instruments to achieve compliance (Dixon *et al*, 2011, 441). Development of international law recognition of the links between environmental protection and human rights[7] has started with Stockholm Conference in 1972. Stockholm Conference resulted with the adoption of Declaration of the United Nations Conference on the Human Environment[8] (further: Stockholm Declaration)[9] that for the first time explicitly linked environmental protection to human rights[10]. The next two decades after the adoption of the Stockholm Declaration marked the adoption of numerous other international instruments in this field, among which it is certainly important to mention the adoption of the World Charter for Nature[11]. Twenty years after Stockholm Conference UN Conference on Environment and Development was held in Rio de Janeiro. Conference in Rio resulted with the adoption of Rio Declaration on Environment and Development[12] (further: Rio Declaration) which identifies 27 principles intended to guide countries in future sustainable and environmentally sound development. Principle 10 of the Rio Declaration guarantees access to information, participation in decision-making processes and access to justice in environmental matters. It is clear from the provisions of the Rio Declaration that the procedural rights were not only recognised but a positive obligation was placed upon the states to ensure the full and proper enjoyment of these rights (Cedeño Bonilla, 2004, 10). Active role of children in establishment of global partnership for achieving sustainable development and securing a

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[7]As Bratspies stated, „discourse around a human right to a healthy environment signals both a social decision that environmental protection must be a priority, and an express intent for lawmakers of all stripes to effectuate that decision as they create, interpret, and enforce law. As such, articulating a functioning and healthy environment as a human right does more than to emphasize the importance of environmental protection among competing (largely economic) priorities. Such a framing grounds this environmental priority as a bedrock concern for international law—a key component of the entire international legal edifice erected to preserve international peace and security. It emphasizes the obligation of states to respect, protect, and fulfill this right nationally and internationally." (Bratspies, 2015, 67)

[8]UN Conference on the Human Environment, 15 December 1972, A/RES/2994

[9] Consisting of three non-binding instruments: a resolution o institutional and financial arrangements, a declaration containing 26 principles and action plan with 109 recommendations.

[10] Principle 1 of the Stockholm Declaration: *"Man has the fundamental right to freedom, equality and adequate conditions of life, in an environment of a quality that permits a life of dignity and well-being, and he bears a solemn responsibility to protect and improve the environment for present and future generations".*

[11]World Charter for Nature, 28 October 1982, A/RES/37/7

[12]Rio Declaration on Environment and Development (A/CONF.151/26, vol.I) and Agenda 21 (A/CONF.151/26, vol.II)

better future was underlined in Principle 21[13]. Agenda 21 (Chapter 25.12) states: *"Children not only will inherit the responsibility of looking after the earth, but in many developing countries they comprise nearly half the population. Furthermore, children in both developing and industrialized countries are highly vulnerable to the effect of environmental degradation. They are also highly aware supporters of environment thinking. The specific interests of children need to be taken fully into account in the participatory process on environment and development in order to safeguard the future sustainability of any actions taken to improve the environment."*

Speaking in a European context, we can generally say that the protection of children in contemporary European law, including Council of Europe law and European Union law[14] has reached very high standards. European countries are faced with demanding requirements for the protection of children's rights, with special attention being paid to the protection of the health of the child. Although the European Convention on Human Rights[15] does not refer to the right to a healthy environment as such, the European Court of Human Rights has been called upon to develop its case-law on environmental issues due to the fact that the exercise of certain rights under the Convention could be jeopardized by environmental damage and exposure to risks for the environment. In this respect, it is indisputable that the convention system contributes to the protection of the environment through existing convention rights and freedoms and their interpretation in the case law of the European Court of Human Rights (Ofak, 2012, 62).

We should not forget that children can be more sensitive to environmental influences on health than adults are. Children's environmental health first emerged as a policy issue in Europe in 1999 at the third Ministerial Conference on Environment and Health in London. This Conference recognized children's unique biological vulnerabilities to hazards in the environment, emphasized the importance of protecting children from toxic environmental exposures, identified priority areas for action, and started children's environmental health process in Europe (Jensen, Smith, 2013). Recognizing that children are entitled to grow and live in healthy environments, in the spirit of the CRC, aware that protecting children's health and environment is crucial to the sustainable development of European countries, Ministers and Representatives of Members States in the European Region of World Health Organization responsible for health and environment, adopted Children's Environment and Health Action Plan for Europe (further: CEHAPE). The aim of the CEHAPE programme, adopted at Fourth Ministerial Conference on Environment and Health held in Budapest in June 2004, is to develop and implement national plans and policies to address local priorities to reduce the burden of disease among children caused by environmental risk factors.

It is important to mention that in Motion for a Resolution on children's rights on the occasion of the 30th anniversary of the UN Convention on the Rights of the Child (2019/2876(RSP)) European Parliament calls on the EU and the Members States to step up action to ensure a healthy environment for children (7).

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[13]Principle 21 of Rio Declaration: „*The creativity, ideals and courage of the youth of the world should be mobilized to forge a global partnership in order to achieve sustainable development and ensure a better future for all.*"
[14]The Charter of Fundamental Rights of the European Union, 26 October 2012, 2012/C 326/02 guarantees the protection of the rights of the child by the EU institutions and by EU member states when they implement EU law.
[15] European Convention for the Protection of Human Rights and Fundamental Freedoms, as amended by Protocols Nos. 11 and 14, 4 November 1950, ETS 5

2.3. National framework

We have previously stated that the care of children, as well as the protection and improvement of the natural environment, are explicitly referred to in the Constitution as competence within the scope of local self-government units. Pursuant to this constitutional provision, the Law on Local and Regional self-government[16] places, among other, child care, education, primary education and protection and improvement of the natural environment in the self-governmental scope of local self-government units (Article 19). In accordance with the Environmental Protection Act[17], environmental protection in Croatian law is based on respect for generally accepted principles of environmental protection, respect for the principles of international environmental law, and respect for scientific knowledge (Art. 8). The same regulation prescribes the principle of sustainable development as one of the fundamental principles of environmental protection (Article 9), and the protection of life and human health has been established as one of the basic objectives of environmental protection (Article 7 (2)). The Croatian legislation does not refer specifically to a healthy environment as a child's right but as the right of every person, including a child. A number of environmental regulations have been adopted and a legislative framework for the successful preservation of a healthy environment has been created. Thus, the child enjoys all the rights in the field of environmental protection as well as all other persons.

Speaking in the context of the compliance of Croatian law with international standards for the protection of the child's right to a healthy environment, what is missing in the Croatian legislation is certainly an explicit instruction on directing the education of Croatian students to respect the natural environment. This legal void needs to be corrected by amendments to the Primary and Secondary Education Act[18] (hereinafter: PSEA). Namely, in Art. 4. the PSEA sets out the goals and principles of education and, in the same provision as one of these goals, it is necessary to state the development of awareness about the protection of the natural environment. The obligation to direct education to the development of awareness of the need for the protection of the natural environment, as stated earlier, arises from the CRC and PSEA certainly needs to be aligned with the child rights protection standards of the CRC in this area.

The paper further explores the importance of the environment and sustainable development of the local community, highlighting the child as an important participant in the process of local community development.

3. Environment and sustainable development in a local community – focus on children

There are numerous foreign and domestic authors who deal with the issues of impact/ relationship/connection between environment and local development. Due to the pronounced importance of sustainability of local development, in the modern times research on this topic is even more intensified. Herceg (2013) points out that contemporary economic progress is not in line with the environmental protection postulates and that it is certainly necessary to include environmental protection in further economic development planning, to ensure further economic growth. He also points out the need for an interdisciplinary approach to the topic. Emphasizing the goal of sustainable development states the need to include economic efficiency, social progress and environmental responsibility (Herceg, 2013). It is clear that all

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[16] Law on Local and Regional self-government (Official Gazette no. 33/01, 60/01, 129/05, 109/07, 125/08, 36/09, 36/09, 150/11, 144/12, 19/13, 137/15, 123/17, 98/19)

[17] Environmental Protection Act (Official Gazette no. 80/13, 153/13, 78/15, 12/18, 118/18)

[18] Primary and Secondary Education Act (Official Gazette no. 87/08, 86/09, 92/10, 105/10, 90/11, 5/12, 16/12, 86/12, 126/12, 94/13, 152/14, 07/17, 68/18, 98/19)

of these pillars can and should be viewed at the local level as well, if the elements of sustainable local development are to be considered. Malone (2001), referring to the principles of sustainable development and the need to stimulate simultaneously an environmental, social and economic component that must meet the needs of current generations without compromising the right of future generations to use the same benefits, states that children have a special interest in achieving these goals, as they represent future contributors, decision makers, and residents of the world. Therefore, sustainability goals are targeted at the local and national level, which should maintain the integrity of the social, economic and environmental levels of the global and local environment through processes that are participatory and fair. Nikolajev (2017) also defines the right to development which, in addition to meeting basic human needs also has the realization of other rights, such as environmental protection and the right to a healthy environment, which grows out of the common need of all people to protect themselves from the negative consequences of ecological imbalance.

Patrick, Shaw, Freeman et al. (2019) cite specific documents that emphasize the need for environmental monitoring, such as sustainable development goals (SDGs), the New Urban Agenda and the Paris Agreement on Climate Change, but also state how local actions and indicators are needed for changes to happen. As the same authors state, human well-being and a healthy environment should be equal partners and therefore state the need to achieve SDGs through local activities measurable by composite indicators of the local level. Gruenewald & Smith (2008; according to Shuman, 1998) do not necessarily reject the current trends of capitalism or the market economy, but instead develop place-conscious economic development, whereby the benefits for the local community are visible immediately/ instantaneously and also in the long run. Such a change as a result of a broader social movement, according to Gruenewald & Smith, can therefore be called "the new localism" and is a result of recent patterns of economic development. Furthermore, referring to the effectiveness of local initiatives, Vazquez-Barquero & Rodriguez-Cohard (2016) state that it depends on agreements between local factors on strategies and goals, as well as local community involvement in the management and control of development initiatives, emphasizing that endogenous development is always a slow process that requires changes in institutions and specific local initiatives and actions for each territory. Herceg et al. (2018) cite the omissions of traditional indicators in the monitoring of sustainable development, as they generally fail to cover all three of these sustainability principles, and are most often oriented towards monitoring the economic component. However, some newer indicators have also been invented, such as the Human Development Index, Planetary Happiness Index, and the Sustainable Development Goals Index. Nikolajev (2016) emphasizes the fact that the new relationship between growth and development should presuppose both humane and economic growth that will support and strengthen each other as a goal of creating sustainability of economic development. Furthermore, the same author emphasizes that in order to achieve better environmental management, it is necessary to implement an integrated approach in order to improve the quality of human life as a long-term benefit.

Intensified environmental interest in economic policy discussions can be linked to several factors (Nicolaisen et al., 1991): i) growing awareness of the fact that environmental problems have an important economic dimension that is important to emphasize in order to emphasize social well-being; ii) understanding that collection and other economic instruments, which have an important impact on the macroeconomic level as well as on the structure of the economy, usually play a fundamental role in this process; (iii) the fact that market failures or distortions not directly related to the use of environmental resources can lead to sub-optimal environmental outcomes, for example when congestion on urban roads increases the exhaust emissions associated with a given amount of travel; iv) the transboundary or even global nature of many

environmental issues that underline the need to improve international environmental policy coordination: concern about the effects of certain emissions on the ozone layer and the global climate are two of the most credible examples that can trigger new discussions. Frumkin (2016:3) also cites an important definition of environmental health: „*Environmental health utilizes the geographic concept of spatial scales, from the global (with issues such as climate change), to the regional (air quality), to the local (neighborhood design), to the hyperlocal (ergonomics).*"
As stated by Kregar (2001, abstract): "a healthy city is a long-term, international, WHO development project aimed at incorporating a health component into every political decision made locally." Also, the importance of education in creating sustainable development needs to be implemented from an early age, as pointed out by Kostović-Vranješ (2015, abstract) and emphasize the following: „*...to point out that the richness, specificity and peculiarity of the culture, historical and natural heritage of the Republic of Croatia can be the starting point in shaping holistic sustainable attitudes, values and patterns of behavior.*" Questions and reactions before the consequences on society and nature happen are extremely important, and as Vitale & Sović (2018) state considering the need to respond to environmental justice and environmental equity issues, it is not enough to respond after eliminating the consequences in initation processes, but before that and take into account in advance the potential environmental consequences that local and state policies may address.

Children and adolescents belong to a particularly sensitive group, therefore certain authors, eg Villanueva et al. (2017) cite certain important features of the environment that may be conducive to the child's healthy development. They made a special reference to the global interest in creating a lively, sustainable and unbiased environment, as well as the importance of local experience in creating "Child Friendly Cities". The same authors cite the importance of green spaces and contact with nature for child development, and the built local environment is highly dependent on physical activity opportunities. Fisman (2005) examines the effects of urban environmental education programs on children's awareness of the importance of their local biophysical environment, and the results suggest a significant positive effect of the program on local environmental awareness and their knowledge of environmental concepts. Malone (2001,11) emphasizes the importance of children's assessment of the environment and quality of life, which should be of great importance in determining the local level of quality of life: „*If having rich local environmental experiences and feeling safe and secure, connected and valued are universal indicators of quality of life, then what better place to start than to evaluate sustainable cities through the lives and eyes of its children? A child-friendly city is after all a people-friendly city.*" Furthermore, the rights of the child in the context of sustainable urban development should be mentioned, as Bartlett et al point out. (1999), future economic development should not be in conflict with human and other rights, which happens quite often. Many governments have justified actions that negate regulations with the need to accelerate economic development.

When researching the quality of growing up in a city, Driskell (2002) examines the answers to some of the questions - for example, what makes a city a good place to live for young people, and what are the criteria for deciding whether to support human development and what makes a good city to grow up in, and specifies a list of indicators cited by children based on their local community assessment. That list includes some of the following: social integration, variety of interesting activity settings, safety and freedom of movement, peer meeting places, cohesive community identity and green areas. Bartlett et al. (1999) state that there is a natural convergence between the principles of sustainable development and the rights of the child. Same authors, Bartlett et al. (1999, 17), further point out: „*The achievement of children's rights*

means viewing the world from a different perspective, and radically altering some basic assumptions."

Considering the prominent value of the children's perspective and the earlier emphasis on the need for their involvement, the following section highlights the activities of City of Osijek in protecting the child's rights to a healthy environment.

4. Activity of the City of Osijek in the protection of child's right to a healthy environment

The Constitution and national legal frameworks, as we have discussed previously, place child care, education and primary education, as well as the protection and improvement of the natural environment within the self-governing scope of local self-government units. It is clear that in numerous communal and similar activities the City of Osijek operates in accordance with the standards of protection of the natural environment and thus creates conditions for a healthy environment of its citizens. For the purposes of this paper, we have explored some specific actions of the City of Osijek in protecting the natural environment from the perspective of the protection of children's rights at the local level. In order to collect relevant information, we have established direct communication with the City of Osijek, the Administrative Department for Education, Technical Culture, Children and Youth.

According to the information obtained, we came to the realization that a large number of activities in order to fully realize the rights and needs of children recognized by the CRC were undertaken by the City of Osijek through the action "Cities and Municipalities - Friends of Children". This action was initiated in 1999 by the Alliance of Our Children's Societies of Croatia, the UNICEF Office for Croatia and the Croatian Society for Preventive and Social Pediatrics, and its main objective is to motivate and stimulate adults in the cities and municipalities of the Republic of Croatia to fully realize the rights and needs of children recognized in the CRC. The City of Osijek joined this action in 2000, and on November 13, 2009, a new City Coordination Committee was established to implement this action in the City of Osijek and the action itself was restarted. The Committee is composed of representatives from the field of education, pre-school education, health care, sports, social welfare, associations working with children and the administrative departments of the City of Osijek. The City Coordination Committee has developed a Program and Implementation Plan for the realization of the rights and needs of children for the City of Osijek for the action "Towns and Municipalities - Friends of Children" (hereinafter: the Program), which covers activities related to children.[19] The implementation of the Program throughout the year was followed by the preparation of a Final Report based on the self-assessment on the implementation of the Program: Cities and Municipalities - Friends of Children (hereinafter: Final Report), followed by its evaluation, after which on 18 November 2010 the City of Osijek was given the honorary title "Child Friendly City".
In the context of protecting the child's right to a healthy environment, it is important to highlight the following systematic assessments of the situation and specific activities of the City of Osijek, resulting from the Program and the Final Report:

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[19]The program and implementation plan for the realization of the rights and needs of children in the City of Osijek for the action "Friends of Cities and Municipalities" covers activities related to children in the following areas: Child in a Safe and Healthy City, Child Health, Education, Social Welfare, Culture and Sports children and for children, Leisure and recreation of children, Support and assistance to parents in the care and upbringing of children, Promotion and representation of children and rights of children and young people, Dedicated funds in the city for the development, protection and upbringing of children, as well as support and assistance to associations that have programs for children and involve children in making decisions that relate to them.

*The City of Osijek pays great attention to creating the best possible as well as safe conditions for proper and healthy growth and development of children. In cooperation with schools, kindergartens, ministries, state institutions and local associations, the City initiates and implements numerous projects aimed at developing the environmental awareness of children, as well as towards the regulation and maintenance of the environment through environmental education. Environmental education has been carried out in kindergartens, so there are as many as 3 eco-kindergartens and 3 eco-schools in the city, which lead and encourage other kindergartens and schools as well as their neighbourhoods with their ecological orientation to environmental activism and developing citizens' environmental awareness. The City of Osijek has been organizing two major environmental campaigns for several years, with the primary objective of developing environmental awareness among children and citizens, as well as enhancing environmental education. These are the European Mobility Week, which includes many of the city's sports and environmental associations, and which is marked each year by a different major theme, and yearly activities are always different. The multi-annual action "Composting Together" should be emphasized, in which children and adults are encouraged and taught about composting (Article 2, Item 1.1 of the Program: A Child in a Safe and Healthy City).

* There are many environmentally friendly associations operating in the City of Osijek, co-financed by the City of Osijek and the specific ministries of the Republic of Croatia. Primary and secondary schools in the city are becoming increasingly involved in the environmental projects of these associations (Article 2, Point 1.1 of the Program: A Child in a Safe and Healthy City).

* The participation of children in the development of programs and plans for children and the promotion of children's rights, as well as the right of the child to a healthy environment, was ensured in the city by the establishment of a Children's City Council. The Children's City Council is a representative body of children from the territory of the City of Osijek. The Council has 20 members: 1 representative from each elementary school in the city of Osijek, who represents the rights, interests and needs of the students of his/her school. According to the Final Report, the Children's City Council is active and meets several times a year. The participation of children in the promotion of children's rights, according to the information contained in the Final Report, is also achieved through the Message from Children to Adults during Children's Week, International Children's Day and Family Day. The International Environmental Day should definitely be included here as well.

* City measures are being implemented to realize the rights and needs of children in terms of informing the public about reports and analyses concerning children as well as educating children and adults about CRC-protected child rights. Part of these measures is dedicated to informing and educating the public about the right of the child to live in a healthy environment, mainly through activities in kindergartens and schools, projects of associations dedicated to that topic and through media outlets.

* Children's environmental actions and activities are being conducted in order for children to get to know and protect the natural environment.

We can conclude that, in order to gain the status of "Child Friendly City", great efforts have been made in the City of Osijek, especially in the analysis and systematization of existing and planning of future activities in the protection and promotion of children's rights in general, as well as the right to a healthy environment. However, we were interested in how much the City of Osijek has responsibilities towards retaining the status of "Child Friendly City". The answer to our question asked directly in the City of Osijek by the Administrative Department for Education, Technical Culture, Children and Youth was that "the proof of responsibility from being awarded an honorary title to this day comes down to paying an annual membership fee

and maintaining a sign of the "Child Friendly City" at the entrances to the city area". In other words, there is no questioning of continuity of child friendly assumptions, it is presumed by being on the list.

5. Conclusion

There are clearly determined international, European and national legal mechanisms for the protection and preservation of the natural environment with a conspicuous link between human rights, health and environmental protection. CRC as an umbrella document for the protection of children's rights does not guarantee children a direct right to a clean, healthy or sustainable environment. But, there is a clear link between environmental protection and other children's rights granted under the CRC, such as the right to life, survival and development, the right to health, the right to education and to an adequate standard of living. Likewise, the CRC commits the signatory countries to raise children's awareness about the need to protect a healthy environment. There is no visible obligation in the PSEA to direct primary and secondary education towards this goal, and in order to harmonize national law with CRC standards, it is necessary to amend Art. 4. PSEA to include a new legal aim: developing students' awareness about the need to protect the natural environment.

The protection of children, education and the environment have been placed under the jurisdiction of local authorities by the Constitution and the law. The analysis of the activities undertaken at the level of City of Osijek in the area of the protection of the child's rights to a healthy environment shows that significant efforts have been made to create favorable conditions for safe and healthy growth and development for children. The City of Osijek has also received recognition for the creation of such conditions by acquiring the honorary title "Child friendly City". However, we see a big opportunity for further advancement in reviving the activities undertaken by the City for the purpose of gaining this honorary title, which stopped at the time of its acquisition, but also for creating new activities when it comes to protecting the child's right to a healthy environment.

The Green Law Clinic was established at the Faculty of Law in Osijek in 2018 with the aim of ensuring the necessary and adequate legal protection of all citizens concerning issues of environmental protection and providing legal assistance to persons who have a legitimate interest in free legal aid of this kind. We believe that institutional cooperation should be established between the City, educational institutions within its jurisdiction and the Green Clinic of the Faculty of Law in Osijek in order to promote activities in the protection and promotion of the child's right to a healthy environment. This institutional cooperation could result in the following advances in protecting and promoting the child's right to a healthy environment in the city area:

1. *Strengthening children's participation in promoting and protecting the right of the child to a healthy environment*
Considering the requirements that the CRC puts before us regarding the active involvement of children in the processes of creating mechanisms to protect and promote their rights, it is very important to have Children's Council of the City of Osijek, as a active representative body of elementary school children in the City. During their studies, students of the Faculty of Law acquire a thorough knowledge of the right of the child to express the opinions and obligations of adults and bodies of state and local government to respect the voice of the child on issues affecting them, methods of exercising this right of children depending on their age and maturity, but also knowledge on the right of the child to a healthy environment as well as the

legal protection of the natural environment in general. With this knowledge, as part of their engagement at the Green Law Clinic, students could help Children's Council of the City of Osijek to become more involved in the process of adopting legal frameworks for the protection of environmental rights in the local environment.

2. *Educating children and adults in the field of protecting the rights of the child to a healthy environment*
Up to now, workshops on the protection of children's rights for kindergarten and primary school children of different age groups have been conducted at the Faculty of Law in Osijek. We believe that similar workshops and other types of training could be organized in the future by a joint organization of professors and students engaged in the Green Law Clinic and representatives of city authorities, which will be aimed at educating children about environmental rights and duties. In doing so, they will also contribute to meeting the CRC requirements for education aimed at developing awareness of a healthy environment, foster understanding of responsibility in thinking and acting with a view to sustainable environmental development.
We also think that workshops, public lectures and other types of education on the protection of the child's right to a healthy environment are needed for adults and not only for children. The Green Law Clinic, in cooperation with the City of Osijek, should also work on the development of educational brochures, leaflets and guides on the duties, rights and responsibilities of children in protecting a healthy environment.

3. *Assistance in addressing practical issues of protecting a child's right to a healthy environment*
The citizens of Osijek are daily confronted with challenges of protecting children's rights to a healthy environment and the need to address specific issues in this area. By providing assistance in addressing these subjects under the mentorship of professors, students would make a tangible contribution to the system of free legal protection and direct public-political activity to the development of instruments for the protection of children's rights. Students, on the other hand, would develop an awareness of the value and importance of working in the public interest and advance their legal education through the acquisition of practical skills.

In this regard, when it comes to the protection of the child's right to a healthy environment at the local level, the establishment of inter-institutional cooperation between the City of Osijek and the Green Law Clinic of the Faculty of Law Osijek could produce multiple benefits. We also recommend the establishment of cooperation between the authorities of the local government and other educational institutions that research environmental issues for the purpose of directing other than legal scientific knowledge towards creating the best preconditions for the protection of a healthy environment in the local community.

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THE IMPORTANCE OF ANNUAL REPORTS IN EVALUATING THE PERFORMANCE OF LISTED ACCOMMODATION COMPANIES IN CROATIA

ABSTRACT

Financial and non-financial information disclosed on the official websites of authorized institutions such as the Financial Agency or the Zagreb Stock Exchange represent important source of information about companies' business performance and operations for different financial and non-financial statement users. To obtain more comprehensive picture on company's performance, one should collect some additional information beyond those presented in financial statements. Therefore, more and more attention is being given to the disclosures about corporate social responsibility. The European Union recognized the importance of publishing additional, non-financial information on companies' business operations and issued the Accounting Directive in 2013 in which it introduces the obligation for companies to prepare management report, enabling the Member States to exclude micro and small entities from this obligation. In 2015, Croatia implemented the provisions of the Accounting Directive into the Accounting Act. The non-financial statement may be published in the management report as a part of annual report or as a separate report. The empirical research is conducted on a sample of non-financial companies that are quoted on the Zagreb Stock Exchange and that engage in the section of activity I55 – Accommodation, which is the most represented section of activity on the Zagreb Stock Exchange. Based on the information that they present their annual reports, we performed a qualitative or content analysis to explore to which extent they comply with the disclosure requirements that are set in the Accounting Act. Since the tendency of companies to disclose different information, is under the influence of different factors, such as the size of the company, financial performance, ownership structure, etc., we additionally investigated if such factors influence the qualitative and quantitative aspects of annual reports for companies from the research sample.

Key words: *annual report; accommodation; management report; Zagreb Stock Exchange.*

1. Introduction

Financial statements have capability to be a power for decision making process. To obtain more comprehensive figure on company's performance one should collect some additional information beyond that presented in financial statements. Annual report abounds with many useful information that can contribute making decisions. In late 20th century annual reports are considered as *"the most heavily used primary source material for information about company history, finances, employment opportunities, marketing, products and a view of the company's current and future plans"* (Bernstein, 1986, 178). These days, annual report has grown into an integrated report and is considered as a very important instrument of communication. The integrated annual report is *"a fundamental communication tool to address strategic topics related to socioeconomic and environmental performance of the company's financial outcomes"* (Gambetti et.al, 2013, 377). Ineffective communication on company's performance can cause a lot of problems and lead to making wrong decisions.

As an extension to the previous research papers, this paper deals with the non-financial companies that are quoted on the Zagreb Stock Exchange and that engage in the section of activity I55 – *Accommodation*. These companies are the most represented section of activity on the Zagreb Stock Exchange. The intention of the paper is to analyze the normative framework for the preparation of annual reports. Further to that, the goal of the research is to perform a qualitative or content analysis to explore to which extent annual reports of the selected companies comply with the disclosure requirements that are set in the Accounting Act. Based on the list of criteria, we assigned points to companies to assess their overall disclosure practice, as well as to be able to track progress in 2018 when compared to 2013, in terms of both total score (qualitative aspect) and the volume of the annual report (quantitative aspect). Since the tendency of companies to disclose different information is under the influence of different factors, such as the size of the company, financial performance, etc., we additionally investigated if such factors influence the qualitative and quantitative aspects of annual reports for companies from the research sample.

2. Annual report as legal requirement and communication tool

Many professions prepare and publish annual reports in order to present their annual results. However, when it comes to the accounting annual report, it is a specific kind of report. First, it has to be stressed that the International Financial Reporting Standards (IFRS) do not define annual report, although new Framework for financial reporting uses this term. However, for the purpose of Disclosure Initiative project, the IASB suggests the definition of annual report as *"a single reporting package issued by the entity that includes the financial statements"* (IFRS Foundation, 2017b, 40). Further, certain definition of annual report is given by the International Auditing Standards. Towards, IAS 720, an annual report is *"a document, or combination of documents, prepared typically on an annual basis by management or those charged with governance in accordance with law, regulation or custom, the purpose of which is to provide owners (or similar stakeholders) with information on the entity's operations and the entity's financial results and financial position as set out in the financial statements. An annual report contains or accompanies the financial statements and the auditor's report thereon and usually includes information about the entity's developments, its future outlook and risks and uncertainties, a statement by the entity's governing body, and reports covering governance matters."* IAS 720 emphasis that this report is prepared *"to meet the information needs of a specific stakeholder group or a report prepared to comply with a specific regulatory reporting objective (even when such a report is required to be publicly available)"*. Also, the same

standard stresses that annual report can be a separate document or the combination of several documents with the same purpose.

The content of an annual report is usually regulated by national law or similar regulation. As it can be seen from the Table 1, the content of the report has grown in comparison to the requests from the Fourth Directive. Today we can talk about comprehensive content of the report that includes many parts of company's business. This is why annual report becomes an integrated report.

Table 1: The analysis of annual report's title and content

The Fourth EU Directive (78/660/EEC), article 46
*The annual report must include at least a fair review of the development of the company's business and of its position. **The content of the report should include**:*   *(a) any important events that have occurred since the end of the financial year;*   *(b) the company's likely future development;*   *(c) activities in the field of research and development;*   *(d) the information concerning acquisitions of own shares prescribed by Article 22 (2) of Directive 77/91/EEC.*
The European Union Accounting Directive 2013/34/EU, Articles 19-20
The management report shall include a fair review of the development and performance of the undertaking's business and of its position, together with a description of the principal risks and uncertainties that it faces. The review shall be a balanced and comprehensive analysis of the development and performance of the undertaking's business and of its position, consistent with the size and complexity of the business.   ***The most comprehensive content of the report includes:***   *- financial and, where appropriate, nonfinancial key performance indicators relevant to the particular business,*   *- information relating to environmental and employee matters,*   *- where appropriate, references to, and additional explanations of, amounts reported in the annual financial statements*   *- an indication of:*   *(a) the undertaking's likely future development; (b) activities in the field of research and development;*   *(c) the information concerning acquisitions of own shares prescribed by Article 24(2) of Directive 2012/30/EU;*   *(d) the existence of branches of the undertaking; and*   *(e) in relation to the undertaking's use of financial instruments and where material for the assessment of its assets, liabilities, financial position and profit or loss: (i) the undertaking's financial risk management objectives and policies, including its policy for hedging each major type of forecasted transaction for which hedge accounting is used; and (ii) the undertaking's exposure to price risk, credit risk, liquidity risk and cash flow risk*   *- Corporate governance statement*   *a) a reference to the following, where applicable:*   *(i) the corporate governance code to which the undertaking is subject,*   *(ii) the corporate governance code which the undertaking may have voluntarily decided to apply,*   *(iii) all relevant information about the corporate governance practices applied over and above the requirements of national law*   *b) departure from a corporate governance code referred to in points, with the explanation of the reasons for departure*   *c) a description of the main features of the undertaking's internal control and risk management systems in relation to the financial reporting process;*   *d) the information required by points (c), (d), (f), (h) and (i) of Article 10(1) of Directive 2004/25/EC of the European Parliament and of the Council of 21 April 2004 on takeover bids (1), where the undertaking is subject to that Directive;*   *e) unless the information is already fully provided for in national law, a description of the operation of the shareholder meeting and its key powers and a description of shareholders' rights and how they can be exercised; and*   *(f) the composition and operation of the administrative, management and supervisory bodies and their committees.*

International Auditing Standards 720 The Auditor's responsibilities relating to other information

A3. For example, depending on law, regulation or custom in a particular jurisdiction, one or more of the following documents may form part of the annual report:
- *Management report, management commentary, or operating and financial review or similar reports by those charged with governance (for example, a directors' report)*
- *Chairman's statement*
- *Corporate governance statement*
- *Internal control and risk assessment reports*

Examples of reports that, when issued as standalone documents, are not typically part of the combination of documents that comprise an annual report (subject to law, regulation or custom), and that, therefore, are not other information within the scope of this ISA, include:
- *Separate industry or regulatory reports (for example, capital adequacy reports), such as may be prepared in the banking, insurance, and pension industries*
- *Corporate social responsibility reports*
- *Sustainability reports*
- *Diversity and equal opportunity reports*
- *Product responsibility reports*
- *Labor practices and working conditions reports*
- *Human rights reports.*

Source: The Fourth Directive (78/660/EEC), the EU Accounting Directive (2013/34/EU), International Auditing Standards

The name of this report could vary from country to country, but also different regulations sometimes use different names too. For instance, new EU Accounting Directive doesn't use the title annual report. It rather mentions management report, whereas the Fourth Directive (78/660/EEC) used annual report as the term. The same term is used in the International Auditing Standards and the IFRS.

There is a comprehensive IASB project dedicated to Better Communication in Financial Reporting. This project contains several projects that deal with themes of disclosure, primary financial statements, management commentary and IFRS Taxonomy. One of these projects is called *Disclosure Initiative – Principles of Disclosures* that started in 2013 with the issuance of discussion paper in 2017. Principles of effective communication suggested in the Discussion Paper are as it follows. Information should be entity-specific, simple and direct, better organized and linked, formatted, free of duplication in different parts of the financial statements or the annual report, and enhanced comparability (IFRS Foundation, 2017a, 6) Also, the IFRS Framework suggests not to duplicate the information in different parts of the financial statements because this can affect understanding of the statements. Other than that, a lot of discussion was done on the location of some financial information in order to be more useful for reading (within or outside financial statements; in annual report or on web sites, etc.)

In March 2019 the Board published project summary where decided that there is no need to *"further develop guidance or requirements relating to the location of accounting policy disclosures; the use of formatting in the financial statements; and the placement of 'IFRS information' outside financial statements and 'non-IFRS information' inside financial statements"* (IFRS Foundation, 2019, 12). Based on the gathered public opinion, the Board concluded that very important information on company's performance outside financial statements can be found in different locations.

The IFRS Framework (2018) seeks for effective communication with different users of financial statement. Such communication doesn't suggest only the presentation of financial statements. Some entity-specific information could not be presented only in standardized form. (IFRS Foundation, 2018, 74).

Finally, the form of annual report could be printed or electronic form. Many companies present a lot of information from annual report on the company's website. In Croatia, FINA is in charge for the Register of Annual Financial Reports. For the purpose of keeping this Register, "t*he data can be obtained in the form of a printed version of a particular annual financial report, a copy of all original documents submitted to the Register saved on a microfilm or a statement containing information concerning the registration of a corporate entity with the basic data on the taxpayer and registered documentation, in all our branches or via the Internet using the FINA e-card/USB stick"* (FINA, 2020). According to the Rule on keeping the Register of annual financial statements, receiving and checking the completeness and accuracy of annual financial statements and annual reports (2016) annual reports are publicly available.

Although annual report is a useful source of information for the users, especially investors, some companies are not obligated to prepare this report. The possibility of exemption of small companies is stipulated by the EU Accounting Directive (2013/34/EU, article 19.3.) and this is why EU Member States have implemented this exemption in national legislations. The same is with the Croatian Accounting Act. As financial statements are a subject to audit, annual report and its separately disclosed parts should be audited too. The Directive connotes the statutory audit of annual report.

3. Previous research on the importance of annual reports

Previous research papers on the topic of annual reports are usually based on the analysis of annual reports in order to estimate business performance of some industry. There was a great survey on managing corporate annual report in 2000 (O'Connor, 2000). Also, there are some researches that used annual reports as a tool for comparison the quality of reporting among the countries (Pivac, Vuko, Čular, 2017). Further, some surveys deal with the form of the annual report (Lee, 1994).

Nowadays, research interests are focused on the content of the report rather than its form. According to the research conducted by Alfraih and Almutawa (2014, 51), annual reports are an important primary source of information for decision making. However, four groups of participants (financial advisors, external auditors, market regulators and accounting academics) agreed that the timeliness (i.e. long delay) in publishing annual reports are affecting the quality of annual reports as an information source, which potentially undermines the annual report as a communication tool between preparers and users. As for the level of voluntary disclosure, most research participants do not feel satisfied with the quantity or quality of information presented by corporate annual reports (Alfraih, Almutawa, 2014, 81). Ghazali also pointed out to the problem of time lag when presenting annual reports, stating that the timeliness of information and the existence of other channels of corporate communication led to the fact that annual reports are not the primary source of information for analysts (Ghazali, 2010, 51). Aymen, Sourour and Badreddine (2018) tackle the issue of readability of annual reports using a sample of French listed companies. The readability of annual reports includes presenting information that is simple, clear, homogeneous and understandable by all investors, which consequently leads to reduced agency costs and information asymmetry between investors. In addition, it attracts financial analysts, therefore confirming the authors' theory regarding complementarity between readability and analyst following (Aymen, Sourour, Badreddine, 2018, 33). In the context of the content of annual reports, research conducted in New Zealand concluded that there is a lack of reporting "bad news" in the annual reports, as well as comparable financial information. On the other hand, most annual reports satisfied the qualitative characteristics of relevance and supportability (Chatterjee et al., 2011, 43). As for

the usefulness and reliability of presented information, Klingberg and Nilsson found out that lenders' have a limited use of the information presented in the annual reports, since they usually require addition information directly from the company. However, they also conclude that the main advantage of the information presented in the annual report is that it is audited by external auditors (as "other information" that accompanies financial statements), which increases its credibility when compared to the information gained directly from the company (Klingberg, Nilsson, 2010, 40). Dagliene, Leitoniene and Grencikova tackle the issue of corporate social reporting, which is sometimes also a part of the annual report. Their conclusion is that "*the process of corporate social reporting may be improved by strengthening legal framework and improving legal conditions for voluntary reporting*" (Dagliene, Leitoniene, Grencikova, 2014, 54).

The IASB has recognized the problem of reaching financial information from financial statements and started the project under the title ''Better Communication in Financial Reporting''. The IASB got the message from investors that because *"financial statements can often be poorly presented, it can be difficult and time-consuming for them to identify useful information"* (IASB, 2020). Further to that, certain activities organized by the Board are in progress.

4. Empirical study on annual reports for listed companies from the sample

In order to explore disclosure practices of listed companies in Croatia when it comes to the annual report, we conducted an empirical research on a most numerous section of activity on the Zagreb Stock Exchange: I55 – *Accommodation*. Listed companies are considered as public interest entities, which is why they are expected to be transparent in providing financial and non-financial information to their stakeholders.

4.1. Methodology

Our research sample included 21 listed companies from a selected section of activity. Based on the information available at the Zagreb Stock Exchange, we analyzed their annual reports for the year 2018. Majority of companies from the sample are medium companies according to the criteria set in the Accounting Act (Table 2).

Table 2: Listed companies included in the sample

No.	VAT number	No. of employees (year-end)	Size	Total assets	Gross profit	Gross return on assets
1	47625429199	529	large	2,624,257,901	81,408,415	3.71%
2	20989435611	22	small	205,543,053	-9,898,059	-4.15%
3	09089646260	286	large	592,791,052	23,032,264	4.86%
4	18099276986	5	small	107,547,243	-235,191	-0.22%
5	88557173997	149	medium	196,816,309	4,170,750	3.12%
6	90637704245	193	medium	408,840,249	8,867,026	4.12%
7	63259199217	153	medium	291,203,153	13,042,355	5.53%
8	98026846668	44	medium	76,326,014	2,159,036	3.59%
9	94858559872	80	medium	266,168,210	-2,591,620	-0.79%
10	88429213928	145	medium	331,263,842	6,470,787	4.60%
11	05951496767	252	large	457,638,775	37,035,167	9.05%
12	51177655549	9	small	147,088,615	1,926,443	1.40%
13	15573308024	586	large	935,679,298	-16,726,036	-1.42%
14	82344583628	N/A	micro	208,528,212	30,205,527	14.52%

No.	VAT number	No. of employees (year-end)	Size	Total assets	Gross profit	Gross return on assets
15	25190869349	1605	large	3,256,162,395	177,932,443	6.64%
16	57444289760	1614	large	3,019,471,125	307,990,601	10.70%
17	44597437664	69	medium	103,836,458	3,505,977	4.50%
18	36201212847	2749	large	4,997,606,815	260,207,074	6.73%
19	26217708909	304	large	1,550,661,907	-38,977,743	-1.09%
20	06916431329	63	medium	639,735,080	-15,429,378	-2.24%
21	74204012744	465	large	642,738,705	64,318,518	10.99%

Source: Zagreb Stock Exchange, 2020

As may be seen from Table 3, we constructed a list of criteria that we used when analyzing the content of the annual reports. The total number of criteria is 17. Points assigned for every criteria are in the range from 0 to 1, to assure that every criteria has an equal weight when calculating total points. In order to convert the number of pages of the annual report into a dummy variable, we assigned 1 to those companies whose annual reports were more extensive than the median number of pages in the observed year.

Table 3: Criteria used to assign points to companies

Criteria		Grading
Number of pages of the annual report greater than the median		1 if greater, otherwise 0
Annual report contains:	annual financial statements	1 if published, otherwise 0
	auditor's report	1 if published, otherwise 0
	corporate governance code statement	1 if published, otherwise 0
	management report	1 if published, otherwise 0
Management report contains:	probable future development of the entrepreneur's business	1 if published, otherwise 0
	R&D activities	1 if published and explained, 0.5 if mentioned, otherwise 0
	information on the repurchase of own shares	1 if published, otherwise 0
	information on existing affiliates	1 if published, otherwise 0
	financial instruments used by the company	1 if published and explained, 0.5 if mentioned, otherwise 0
	objectives and policies related to financial risk management, hedge accounting	1 if published, otherwise 0
	price risk, credit risk, liquidity risk, cash flow risk	1 if published, otherwise 0
	non-financial report	1 if published and explained, 0.5 if mentioned, otherwise 0
Other factors:	key financial indicators	1 if published, otherwise 0
	investments	1 if published, otherwise 0
	organizational structure	1 if published, otherwise 0
	report visualization	1 if contains tables and figures, otherwise 0

Source: systematized by the authors

After exploring to what extent the companies from the sample comply with the disclosure requirements regarding annual reports in 2018, we performed the same procedure for the year 2013 to be able to track progress and identify areas of improvements in the observed period. Since one company from the research sample was founded in 2015, analysis for the year 2013 included 20 companies.

In the end, we tested if the disclosure practices when it comes to the annual report are under the influence of company's characteristics, mainly size. First, we constructed correlation matrix to

observe the direction and strength of correlation between the volume (in terms of number of pages) and content of the annual report (based on the assigned points for different elements) on the one side, and total assets, gross profit and gross return on assets on the other side. Second, we used one-way ANOVA test and Tukey's HSD test to identify if small & micro, medium and large companies differ in terms of average number of pages and assigned points for their annual reports. The tests were performed on a pooled sample, including both 2013 and 2018.

4.2. Analysis of the annual reports' content in 2018

The focus of this research was to identify which information is the most often presented in annual report of companies listed on Zagreb Stock Exchange, section I55 - *Accommodation*. To achieve this goal, we performed qualitative research to explore to which extent those companies comply with the disclosure requirements set in Accounting Act and which additional information they disclose within annual report. As can be seen in Table 4, volume of annual report varies from 14 to 195 pages as expected, due to the fact that analyzed companies according to size are classified as micro, small, medium or large companies. All observed companies should prepare and present their annual financial statements. Auditor's report was presented within annual reports of 19 companies. According to the Accounting Act, companies whose shares are listed on stock exchange should disclose Corporate governance code statement. Our research showed that 7 out of 21 companies did not disclose such statement in its' annual report. Report under the title "Management report" was not prepared and presented by 4 out of 21 companies.

Table 4: Results of the analysis of the annual reports' content in 2018

No.	Year	No. of pages in the annual report	Annual report contains:				No. of pages of the annual report greater than Me
			Annual financial statements	Auditor's report	Corporate governance code statement	Management report	
1	2018	152	1	1	1	1	1
2	2018	51	1	1	0	0	0
3	2018	84	1	1	1	1	1
4	2018	66	1	1	1	1	0
5	2018	47	1	1	1	1	0
6	2018	56	1	1	1	0	0
7	2018	63	1	1	1	1	0
8	2018	64	1	1	1	1	0
9	2018	54	1	1	0	0	0
10	2018	66	1	1	1	1	0
11	2018	195	1	1	1	1	1
12	2018	55	1	1	0	1	0
13	2018	14	1	0	1	1	0
14	2018	16	1	0	1	1	0
15	2018	81	1	1	1	1	1
16	2018	83	1	1	0	1	1
17	2018	53	1	1	0	0	0
18	2018	182	1	1	1	1	1
19	2018	97	1	1	0	1	1
20	2018	69	1	1	1	1	1
21	2018	148	1	1	0	1	1

Source: created by the authors

According to the Accounting Act, Management report should contain information regarding: 1) probable future development, 2) R&D activities, 3) repurchase of own shares, 4) information on existing affiliates, 5) financial instruments used by the company, hedge accounting, description of major risks, and 6) non-financial report (only large companies of a public interest with more than average 500 employees in previous year). Most companies (16/21) disclose the information on probable future development in the annual report. Only few companies disclose information on its' R&D activities. This could be explained by the fact that observed companies are oriented to providing accommodation services that in most cases do not require research and development activities. One company disclosed that it does not perform those activities and therefore we assigned 0.5 points. Information on repurchase of its' own shares is disclosed in around half annual reports and this can be explained by the fact that all companies do not repurchase its' own shares in the observed period. The same situation is found in information on existing affiliates. The information on financial instruments is mostly disclosed within the notes to the financial statements. As it can be seen in Table 5, all companies disclose information on their major risks (21/21). Only 5 companies are obliged, according to the Accounting Act, to prepare non-financial report. Those reports are short and in some cases contain only the sentence that the "company does not provide environmental polluting activities". In such cases we assigned 0.5 points because other relevant information on socially responsible behavior are not disclosed. We can also conclude that companies that are not obliged to present non-financial information have recognized the importance of such disclosures to obtain complete picture of business performance.

Table 5: Results of the analysis of the management reports' content in 2018

No.	Year	Management report contains:							
		Probable future development	R&D activities	Repurchase of own shares	Information on existing affiliates	Financial instruments used by the company	Hedge accounting	Description of major risks	Non-financial report
1	2018	1	1	0	1	1	1	1	1
2	2018	0	0	0	0	0	0	1	0
3	2018	1	0	0	0	0	1	1	0
4	2018	1	0	0	0	1	1	1	0.5
5	2018	1	0	0	0	0	1	1	0
6	2018	0	0	1	0	0.5	1	1	0.5
7	2018	1	1	0	0	1	1	1	0
8	2018	1	1	0	1	0	1	1	0
9	2018	1	0.5	0	1	1	1	1	0.5
10	2018	1	1	1	1	1	1	1	0
11	2018	1	0	1	1	1	1	1	1
12	2018	0	0	1	1	1	0	1	0.5
13	2018	1	1	1	1	1	1	1	0
14	2018	1	1	1	1	1	0	1	0
15	2018	1	0	1	1	1	0	1	0
16	2018	0	0	1	1	1	1	1	0
17	2018	0	0	0	0	0	0	1	0.5
18	2018	1	0	0	1	1	1	1	1
19	2018	1	1	1	1	1	1	1	1
20	2018	1	0	0	1	1	1	1	0
21	2018	1	0	1	1	0	0	1	1

Source: created by the authors

Moreover, we analyzed some additional information that companies disclose within its' annual report (Table 6). Most of companies disclose some key financial indicators such as liquidity ratio, debt ratio, turnover ratio etc. Usually companies disclose only those ratios they consider

relevant, but they rarely calculate and disclose actual financial indicators, such as liquidity or profitability indicators. We evaluate as a positive, trend to disclose information on companies' investments. Only few companies did not disclose such information, which can be explained by the fact that these companies did not have investments in the observed period. Organizational structure is disclosed only in one annual report. Finally, we compared annual reports for 2013 and 2018 and evaluate if some progress was made in visualization of annual report. We found progress in such sense in only 4 annual reports.

Table 6: Results of the analysis of other information included in the annual report in 2018

No.	Year	Other factors:			
		Key financial indicators	Investments	Organizational structure	Report visualization
1	2018	1	1	0	1
2	2018	1	0	0	0
3	2018	1	1	0	1
4	2018	1	1	0	0
5	2018	1	1	0	1
6	2018	0	0	0	0
7	2018	1	1	0	0
8	2018	0	1	0	0
9	2018	1	1	0	0
10	2018	1	0	0	0
11	2018	1	1	1	1
12	2018	0	1	0	0
13	2018	1	1	0	0
14	2018	0	1	0	0
15	2018	1	1	0	0
16	2018	1	1	0	0
17	2018	0	0	0	0
18	2018	1	1	0	1
19	2018	1	1	0	0
20	2018	0	0	1	0
21	2018	1	1	0	0

Source: created by the authors

4.3. Analysis of progress in reporting – annual reports in 2018 vs 2013

When comparing annual reports of selected companies in 2018 with 2013, certain progress is definitely expected, primarily due to the fact that the regulatory requirements have changed in the observed period. This has reflected in the number of pages of annual reports (Figure 1). The average number of pages for companies in the sample has increased from 49.5 to 80.8.

Figure 1: Comparison of number of pages in the annual report (2013 vs 2018)
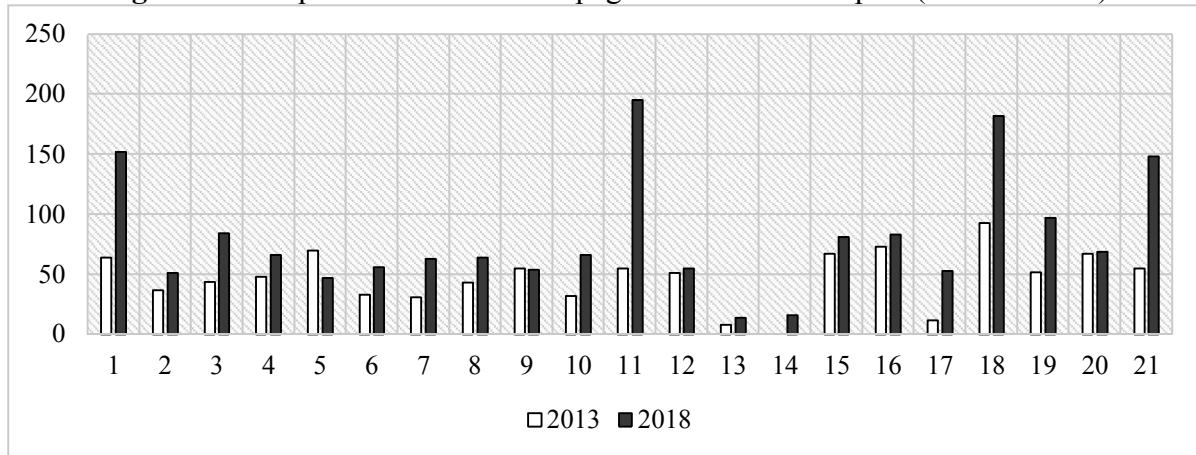
Source: created by the authors

As for the content of the annual report, assigned points to companies for disclosing different elements of the annual report (Figure 2) also indicate progress for a majority of companies (18 out of 20). Namely, the average total number of points or total score has increased from 7 to 10.6. The areas that contributed the most to the increased number of total score are: 1) presentation of corporate governance code statement, 2) disclosure of probable future development, 3) disclosure of R&D activities, and 4) key financial indicators. Regarding the key financial indicators, it is still an issue that a significant portion of sample companies do not calculate actual indicators in the section of the annual report with a subheading *financial indicators*, but rather duplicates the information presented in the annual financial statements. There is still room for further progress, especially in the terms of visualization of annual reports, since it was shown that the information presentation format can impact decision-maker behavior. "*Visualization provide the user with more spatial representations of data and allow the user to better understand trends and relationships in the data*" (Kelton, A., Pennington, R. R., 2010, 89-90). Although the extent of the annual report has significantly increased, information is still primarily presented in the text format, with little or none tables and figures.

Figure 2: Comparison of assigned points based on the annual reports' analysis
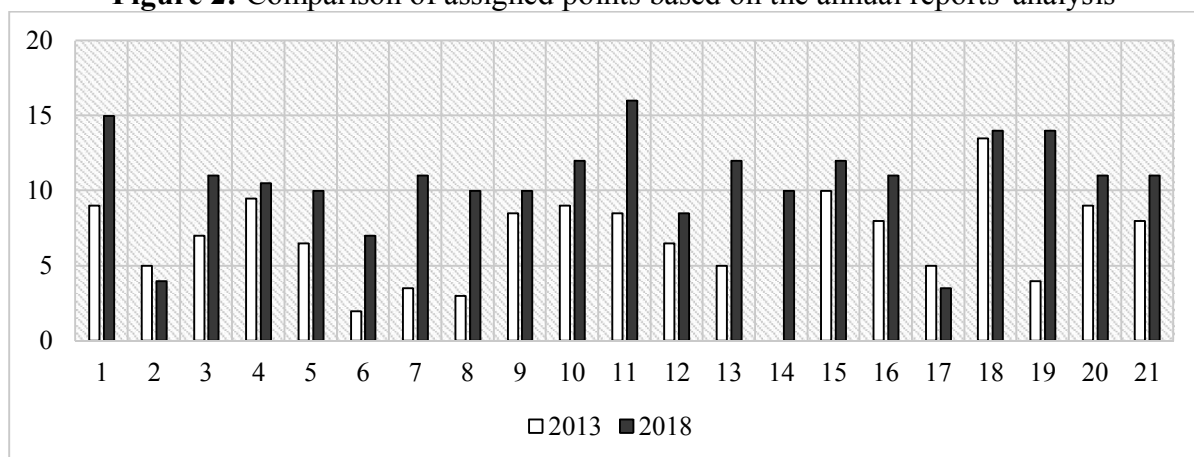
Source: created by the authors

4.4. The impact of company characteristics on the annual report's content

To test the correlation between disclosure practices regarding annual report and certain characteristics of companies, we calculated Person correlation coefficients, which are presented

in Table 7. We used a pooled sample and therefore included data for both 2013 and 2018. Number of pages in the annual report is positively and statistically significantly correlated with the size of the company (represented by the year-end number of employees and amount of total assets), as well as profitability (represented by the amount of gross profit and gross return on assets). As for the total points assigned for the elements of the annual report, this variable is significantly positively correlated with selected characteristics of the company, with the exception of gross return on assets.

Table 7: Pearson correlation matrix

	No. of employees (year-end)	Total assets	Gross profit	Gross return on assets	No. of pages in the annual report	Total points
No. of employees (year-end)	*1.0000**					
Total assets	*0.9478**	*1.0000**				
Gross profit	*0.8355**	*0.8079**	*1.0000**			
Gross return on assets	*0.3668**	0.2806	*0.5705**	*1.0000**		
No. of pages in the annual report	***0.4733****	***0.5375****	***0.4942****	***0.3826****	***1.0000****	
Total points	***0.4337****	***0.4978****	***0.3563****	**0.2580**	***0.6959****	***1.0000****

*significant (5%)
Source: calculated by the authors

When companies are divided into three separate groups based on their size according to the Accounting Act (Table 8), it can be concluded that the first two groups – small & micro and medium companies – are very similar in terms of average number of pages and average total points. Only large companies stand out on the basis of both criteria.

Table 8: Average number of pages in the annual report and average total points depending on the size of the company

	Count	**Average no. of pages in the annual report**	**Average total points**
Small & micro	7	46.29	7.71
Medium	16	50.94	7.56
Large	18	85.94	10.50
Total	**41**	/	/

Source: calculated by the authors

To examine the validity of that conclusion, we additionally performed one-way ANOVA test (Table 9 and Table 10). Since the p-value calculated from the F ratio is below 0.05, the results of the test indicate that one or more treatments or groups are significantly different. This applies to both differences in means of number of pages and means of total points assigned.

Table 9: One-way ANOVA test results - differences in means of number of pages

Summary of Data				
Size	**Small & micro**	**Medium**	**Large**	**Total**
N	7	16	18	41
∑X	324	815	1547	2686
∑X2	16,512	45,733	179,585	241,830
Std. Dev.	15.8925	16.7709	52.3725	40.5784
Result Details				
Source	SS	df	MS	
Between-treatments	13,500.93	2	6750.47	F = 4.89881
Within-treatments	52,363.31	38	1377.99	
Total	65,864.24	40		

Source: calculated by the authors

Table 10: One-way ANOVA test results - differences in means of total points assigned

Summary of Data				
Size	small & micro	medium	large	total
N	7	16	18	41
∑X	54	121	189	364
Mean	7.7143	7.5625	10.5	8.878
∑X2	456	1074	2177.5	3707.5
Std.Dev.	2.5635	3.2551	3.3694	3.4492
Result Details				
Source	SS	df	MS	
Between-treatments	84.5242	2	42.2621	F = 4.10347
Within-treatments	391.3661	38	10.2991	
Total	475.8902	40		

Source: calculated by the authors

In order to examine which pairs of groups are significantly different, we performed the Tukey HSD test. Due to the small number of companies in the group representing small & micro companies, as well as relatively high dispersion, the difference between that group and large companies was marked as insignificant. However, it was confirmed that there is no statistically significant difference between small & micro companies and medium companies, and that the difference between medium and large companies is significant.

Table 11: Results of the Tukey HSD test

treatments pair	No. Of pages in the annual report			Total points assigned		
	Tukey HSD Q statistic	Tukey HSD p-value	Tukey HSD inferfence	Tukey HSD Q statistic	Tukey HSD p-value	Tukey HSD inferfence
small & micro vs medium	0.3911	0.9000	insignificant	0.1476	0.8999947	insignificant
small & micro vs large	3.3919	0.0547	insignificant	2.7559	0.1390776	insignificant
medium vs large	3.8815	0.0244	* p<0.05	3.7675	0.0296296	* p<0.05

Source: calculated by the authors

5. Conclusion

Annual report is usually important source of information on financial and non-financial aspects of business performance of particular company. The content of annual report is usually regulated by national legislation. In Croatia, information that should be disclosed in annual report is prescribed by the Accounting Act which in harmonized with European legislation. According to the Croatian Accounting Act, an entity is required to prepare and publish an annual report that should contain: 1) financial statements, including an audit report (for large and medium sized entities and public interest entities), 2) statement on the application of corporate governance code (for public interest entities whose securities are listed on the capital market of any EU Member State), 3) report on payments to the public sector (public interest entities active in the extractive industry or the logging of primary forests), and 4) management report providing information on: future entities' development, R&D activities, purchase of treasury shares, companies' subsidiaries, financial instruments and a non-financial report for large public interest entity with an average of over 500 employees. The non-financial report may be published in the management report as a part of annual report or as a separate report.

To identify which information companies providing accommodation services disclose in their annual reports and to which extent they comply with the disclosure requirements that are set in the Accounting Act, we analyzed annual reports of 21 companies listed on the Zagreb Stock

Exchange, section I55 – *Accommodation,* for the years 2013 and 2018. We also identified progress in annual reports in the observed period. Except required information, we identified some additional information which could contribute to the overall understanding of companies' business performance and therefore should be disclosed in the annual report. Research has shown that majority of companies made progress in its' annual report when comparing 2018 to 2013. Areas that contribute the most to such progress are: 1) presentation of corporate governance code statement, 2) disclosure of probable future development, 3) disclosure of R&D activities, and 4) key financial indicators. It should be noted that the progress is partly attributed to the changes in regulatory requirements, rather than improved voluntary disclosure practices of analyzed companies. However, there is a still room for further progress, especially in visualization of annual reports. Information is still usually presented in the form of text rather than tables and figures. Research also showed that the number of pages in the annual report is positively and statistically significantly correlated with the size of the company, as well as profitability. As expected, large companies compile more extensive annual reports and disclose more detail information than micro, small and medium entities.

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BUSINESS COMBINATIONS OF COMPANIES UNDER COMMON CONTROL

ABSTRACT

This paper investigates two related topics – the terminological problem of defining business combinations, and the operations of companies within groups that carry special challenges, which is especially true for transactions of status changes. In principle, the problem is of terminological nature. Legislation includes terms such as business transfer, status change, business combination and company transformation. The aim of the paper is to determine whether this is applicable on status changes within the group, where there is no acquisition fee, or it is different from fair value. No less challenging is the question of the very reasons for the status change. Recognizing the importance of this topic, i.e. transactions under common control (TUCC), in 2007, the IASB included the topic of business combinations of companies under common control (BCUCC) in its plan. Although already 13 years have passed since the first plan, there is still no final solution in the form of standards. Methodologically, these transactions are not challenging only from an accounting standpoint, but are examined in relation to financial reporting and analysed from a tax perspective, especially as status changes of companies involving multiple tax jurisdictions are particularly challenging. The expected results show that, essentially, a company needs to prove that any one of the above procedures is carried out solely for justified economic reasons (restructuring or rationalisation) and in no way because of tax abuse and aggressive tax planning. In the final part, the paper discusses the future and appropriateness of the accounting model for business combinations under common control (BCUCC) as a challenge in finding an adequate model for this phenomenon. However, it is to be assumed that the European Union Directive relating to the common system of taxation in the case of status changes is an example of a model for solving the problem in international environment.

Key words: *common control, business combinations, taxation, acquisition.*

1. Regulatory background

Business operations of individual groups are governed by the pursuit of achievement of the set goals. Sometimes groups need to be restructured, and consequently acquisitions or mergers occur between individual members of the group. Such transactions raise the issue of appropriate accounting treatment. Specifically, the key question is how such an acquisition occurring among members of the same group is comparable with, for example, acquisition of a previously unrelated company? Already at first glance, the question of determining the cost of acquisition arises, which may not necessarily be comparable with comprehension of the cost of acquisition in an "ordinary" transaction, a transaction between unrelated companies, where it is reasonable to assume that the entire transaction is based on market principles. Starting from this problem, it is inevitable to consider the economic substance of the

transaction, because although it is a completely identical status change in the legal sense, in its economic essence it may reflect and be conditioned by entirely different reasons.

Consequently, an appropriate accounting model should be identified and applied, since IFRS 3 and CFRS 2 in respect of business combinations allow only the application of the purchase (acquisition) method, in accordance with pt. 4 of IFRS 3 and pt. 2.63 of CFRS 2, which involves identifying the acquirer, determining the date of acquisition, recognising and measuring the identifiable assets acquired, the liabilities assumed and any non-controlling interest in the acquiree, and recognising and measuring goodwill or a gain from a purchase at a lower than market price (pt. 5 of IFRS 3).

Preliminary, in order to properly choose the accounting and tax criteria for mergers and acquisitions of entrepreneurs, it is of the utmost importance to determine the type of business combination, whether it is one of the following business combinations: (a) business combination when one entrepreneur purchases more than 50% of stock or business shares of one or more other entrepreneurs, thereby becoming the parent in the group of capital-related entrepreneurs, which retain legal autonomy through the aforementioned merger, and the provisions of IFRS 3, IFRS 10 and CFRS 2 are applied, (b) if one company participates in the capital of another company in which it invests between 20% and 50% then they become associated entrepreneurs applying IAS 28 and CFRS 2, (c) business combinations in which one entrepreneur together with others has joint control over a third party is characteristic of a joint venture, which in the sense of application of appropriate standards use IAS 28 and CFRS 2, (d) if a company participates in the capital of the company that is being invested in with a share lower than 20%, IFRS 9 and CFRS 9 are used, or, if a company participates in the capital of the company that is being invested in with a share higher than 20%, reporting is done under IFRS 9 and CFRS 9, (e) transfer of an economic entity, that is, acquisition of net assets, which is carried out by simultaneous transfer of assets and liabilities to another entrepreneur, where the transferred assets and liabilities represent a specific activity that is set aside in one entrepreneur and transferred to another entrepreneur and f) mergers and acquisitions in accordance with the provisions of the Companies Act (CA) (Bešvir, 2018, 124-125).

Figure 1: Examples of business combinations under common control (BCUCC)
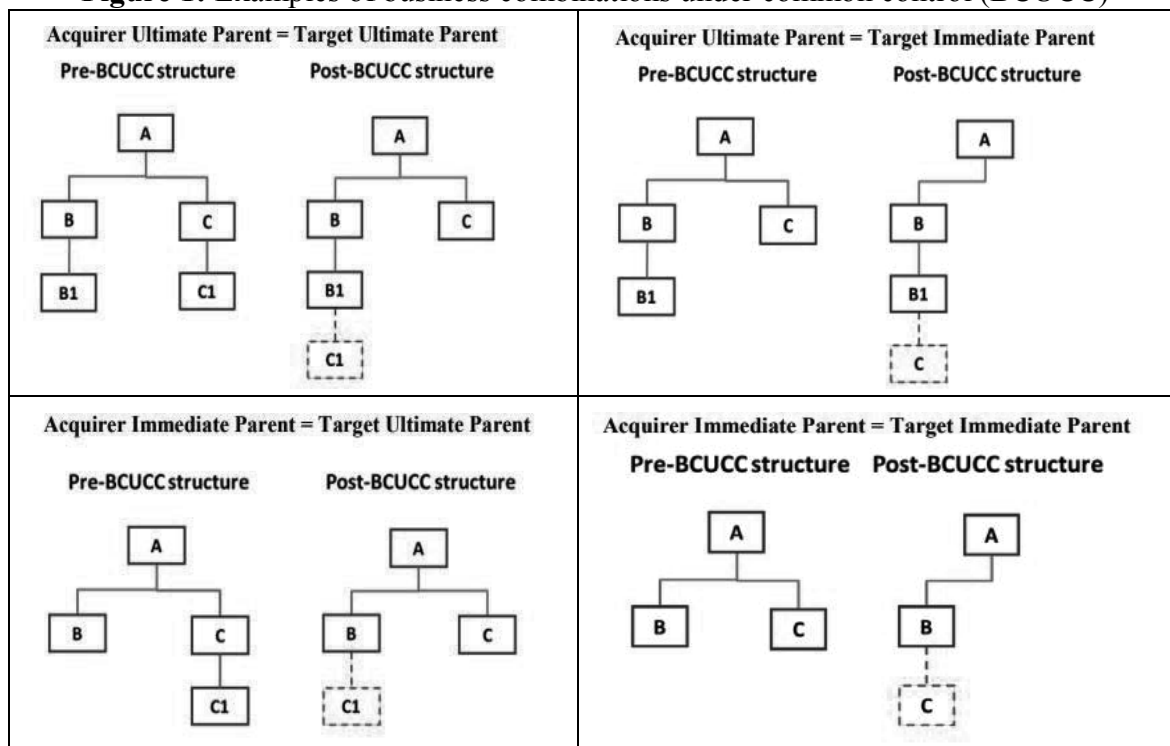
Source: Bonacchi et al. (2015, 39).

To illustrate, company B PLC and company C LLC are acquired by company A PLC. Company A PLC owns more than 50% of stock of entrepreneur B PLC and 30% of business shares of entrepreneur C LLC. Since company A PLC has control over entrepreneur B PLC, based on the ownership of the majority of voting rights, in the acquisition process of company B PLC by company A PLC, the criteria set out in IFRS 3 – Business Combinations do not apply. However, given that company A PLC has no control over company C LLC, the criteria set out in IFRS 3 Business Combinations are applied to the acquisition procedure of company C LLC by entrepreneur A PLC. Bonacchi et al. (2015, 39) provide illustrations of possible structures of business combinations under common control (Figure 1).

There are different ways to achieve control: one of these consists in implementing a business combination, but it is not the only one. Business combinations usually cause changes in the group's structure, strategies and management. When control is obtained by means of transactions that take place under common control and do not involve a change of the subject that has control over the entity, then we talk about business combinations under common control (Biancone, 2013, 51). An example of companies under common control is shown in Table 1. Company A LLC has acquired 100% of shares in company B LLC. The acquisition cost of the said shares is HRK 4,000,000.00. Company A LLC is owned by a natural person from whom shares in Company B LLC were purchased, which means that these are entities under common control. Company A LLC merged the subsidiary company B LLC on 01 November 2019. The balance sheet for company B LLC was drawn up on the date preceding the merger with company A LLC, i.e. on October 31, 2019 (Accounting Act, art. 13, par. 7, pt. 2, NN 78/15 through 116/18; Crkveni Filipović, 2018, 24).

Table 1: Merger of companies under common control (new model)

Balance sheet position	B LLC 31 October 2019 in HRK (subsidiary)	A LLC 31 October 2019 in HRK (acquirer/parent)	A LLC 01 November 2019 in HRK
Goodwill	-	-	-
Land	1,500,000.00	500,000.00	2,000,000.00
Buildings	1,800,000.00	3,500,000.00	5,300,000.00
Other property, plant and equipment	-	720,000.00	720,000.00
Investments in shares	-	4,000,000.00	-
Inventory	150,000.00	280,000.00	430,000.00
Cash	50,000.00	150,000.00	200,000.00
Total assets	**3,500,000.00**	**9,150,000.00**	**9,750,000.00**
Share capital	1,400,000.00	5,050,000.00	5,050,000.00
Reserves	600,000.00	800,000.00	800,000.00
Profit for the year	500,000.00	-	-
Retained earnings	400,000.00	2,025,000.00	925,000.00
Long term liabilities	450,000.00	850,000.00	1,300,000.00
Current liabilities	150,000.00	425,000.00	575,000.00
Total liabilities	**3,500,000.00**	**9,150,000.00**	**9,750,000.00**

Source: Elaborated according to Crkveni Filipović (old model) (2018, 24-25)

Entity A reflects identifiable net assets of entity B at fair value or at predecessor carrying amounts (IASB, 2019). The above example shows that the acquirer company (A LLC) did not increase share capital in order to carry out the merger (art. 539, par. 1 of CA), since it holds business shares of the company being merged, in this case, 100% (art. 539, par. 1, pt. 1), thereby fulfilling the other conditions prescribed in art. 539, par. 1, pt. 2 and pt. 3 of CA. More specifically, on 01 November 2019 retained earnings decreased by HRK 1,100,000.00, measured as the difference between the cost of buying shares (HRK 4,000,000.00) and the value of net assets (HRK 2,900,000.00), which means that the acquirer has purchased all shares of the subsidiary at a price that is higher than the value of net assets of the subsidiary. The net asset value in the given example is calculated as the difference between the total assets of the subsidiary and the total liabilities of the subsidiary (3,500,000.00 – 600,000.00). If this was not a transaction between entities under common control, the difference between the fair value of assets and the acquisition cost would represent goodwill. If the acquirer's share in the net fair value of the acquired entrepreneur's assets, liabilities and contingent liabilities is higher than the cost of the business combination, the acquirer must immediately recognise this share as in income negative goodwill (equivalent to income from bargain purchase and surplus of acquirer's share in the net fair value) (CFRS 2, pt. 2.73). More on this in Riedl, 2004; Beatty and Weber, 2006; Zhang and Zhang, 2007; Poel et al., 2008; Ramanna, 2008; AbuGhazaleh et al., 2011; Ramanna and Watts, 2012.

A separate question is what happens to the determined value of goodwill in subsequent measurement and accounting for value, i.e. after the acquisition period, relative to CFRS and IFRS. Thus, entities obliged to apply IFRS (paragraph B63 related to pt. 54 of IFRS 3) apply: (1) IAS 38, which prescribes the method of accounting for identifiable intangible assets acquired in a business combination. The acquirer evaluates goodwill in the amount recognised at the acquisition date less cumulative losses due to value impairment. The method of calculating losses due to value impairment is prescribed by IAS 36 – Impairment of Assets, (2) IFRS 4 – Insurance Contracts, which contains instructions for subsequent accounting for insurance contracts acquired in a business combination, (3) IAS 12, which prescribes

subsequent method of accounting for deferred tax assets (including unrecognised deferred tax assets) and deferred tax liabilities acquired through a business combination, (4) IFRS 2, which contains instructions for subsequent measurement and accounting for portion of replacement payment awards based on shares issued by the acquirer, relating to future employee services, and (5) IAS 27 (as amended by the International Accounting Standards Board in 2008) provides guidance on accounting for changes in a parent's ownership interest in a subsidiary after control is obtained. Analysing the provisions of the stated accounting standards, it is concluded that goodwill cannot be amortised, but the fair value is determined by applying the impairment test, which is primarily suitable for large entrepreneurs, listed (quoted) entities, and entities preparing for an official listing. However, CFRS still obliges users to depreciate the determined value of goodwill arising from a merger or acquisition in subsequent accounting periods, up to a maximum of five years, using pt. 2.72 of CFRS 2. The latter results in different sets of financial statements, in terms of financial statement structure, for those obliged to apply the   CFRS-IFRS standard.

2. Literature review for business combinations of companies under common control (BCUCC)

Until 2004, business combinations were regulated by provisions of International Accounting Standard (IAS) 22 "Business Combinations". In 2004, International Financial Reporting Standard 3 "Business Combinations" replaced IAS 22. In 2008, IFRS 3 was amended. IFRS 3 is mandatory for all financial statements prepared for financial year starting after 30 June 2009 (CFRS, 2014, 15). A revised version of IFRS 3 was issued in January 2008 and applies to business combinations occurring in an entity's first annual period beginning on or after 1 July 2009 (Deloitte, 2008, 1). Nevertheless, IFRS Standards do not specify how to account for BCUCC transactions, which leads to diversity in practice (IASB, 2019; Janowicz, 2018).

Carvalho et al. (2016, 6) distinguish between prior studies that pertain to periods when the use of IFRS was mostly voluntary (Street et al., 1999; Street and Bryant, 2000; Street and Gray, 2002; Glaum and Street, 2003), and these found a significant extent of noncompliance with IAS, especially in the case of IAS disclosure requirements. More recent studies address IFRS compliance for companies that are mandated to apply IFRS in the EU (e.g. Tsalavoutas, 2011; Glaum et al., 2013; Verriest et al., 2013). Recent literature on business combinations under common control can be divided into separate areas, according to which accounting for business combinations has been one of the most controversial issues in financial reporting (Ayers et al., 2002, 5); the scarce and fragmentary literature, not to mention the lack of clear consensus on the topic, contributes to the prevailing concerns on how to account for BCUCCs (Fiume et al., 2015, 107); respectively it is not simple to define a homogeneous and categorical description of BCUCCs, as they do not represent a homogeneous case and are not easily generalizable (Biancone, 2013, 51), and finally, some authors provide overviews of application of BCUCC in national contexts: Italy (Biancone, 2013), China (Heng and Noronha, 2011; Taplin, Zhao, Brown, 2014; Liu et al., 2008; Baker et al., 2008 and 2010), Poland (Janowicz, 2017), Czech Republic (Pospíšil and Vomáčková, 2018), Portugal (Carvalho et al., 2016).

Bonacchi, Marra and Shalev (2015, 2) analyse a choice that parent firms face under IFRS: whether to account a business combination under common control (BCUCC) at fair value or at the historical cost, to provide evidence that firms would use fair value when they believe it would help them issuing public debt. They find that parent firms are more likely to record BCUCCs at fair value when their pre-BCUCC leverage is high and when they have net worth

covenants on their debt. Using a propensity score to match firms that used fair value to account for a BCUCC with similar firms that did not conduct a BCUCC they find that the former are more likely to issue new public debt following the BCUCC. Based on the statistical sample containing detail data of 115 transformations in the Czech Republic in 2013, Pospíšil and Vomáčková (2018, 313) research shows that majority of company transformations are in fact corporate holdings reorganisations rather than business combinations as defined by IFRS 3 and it also suggests that the rules for accounting for these transactions are in fact misused for distribution of earnings (even unrealized earnings) through the corporate holdings.

Masadeh et al. (2017, 61) consider how IFRS success is credited to the enhancement of comparability of accounting information and streamlining of acquisition methods and goodwill under business combinations. Contrarily, IFRS is considered unsuccessful, because it is riddled with negative consequences, such as rising costs of compliance and preparation, especially in developing and less industrialized nations. We conclude that comparability of accounting information on an international scale is the most positive effect of IFRS 3, while increasing cost of compliance is the greatest negative effect of IFRS 3. Glaum et al. (2013, 163) analyse compliance for a large sample of European companies (for leading stock-listed companies from 17 European countries) mandatorily applying IFRS focusing on disclosures required by IFRS 3 Business Combinations and IAS 36 Impairment of Assets and they find substantial non-compliance. They conclude how compliance levels are determined jointly by company- and country-level variables, indicating that accounting traditions and other country-specific factors continue to play a role despite the use of common reporting standards under IFRS. Johansen and Plenborg (2013, 605) found that business combinations disclosures are highly demanded by users, but they are also among the items that are more costly to prepare and that users are less satisfied with the terms of disclosure quality (notes), which have important implications for practitioners and policy-makers and can be used for setting priorities.

Study by Carvalho et al. (2016, 4) which involves the analysis of 197 business combinations, reveals that the amounts of goodwill continue to be highly material, while conversely, the value of identifiable intangible assets in those acquisitions is very low. Also, the results suggest that Portuguese companies do not undertake sufficient efforts to individually identify and disclose intangibles acquired in business combinations. This fact is reinforced by the reduced level of compliance with the disclosures required by IFRS 3, particularly the factors that contribute to the recognition of goodwill. Using Austria as a case study, Iatridis and Senftlechner (2014, 171) find that, in the years of their early tenure, CEOs in Austria generally do not adopt goodwill impairment-related opportunistic behaviours. Also, the study indicates that companies that have carried out goodwill impairment tend to display higher cost of capital, addressing potential uncertainty about their future prospects and cash generating ability. Finally, findings show that companies that report goodwill and are audited by a Big 4 auditor tend to display lower cost of capital.

The following section discusses inconsistencies in terminology and issues of treatment of common control, which will be clarified in relation to the provisions and rules of International Financial Reporting Standards (IFRS), Croatian Financial Reporting Standards (CFRS), and a tax standpoint.

3. Results and discussion

3.1. Discussion regarding the accounting treatment of common control

Terminological definition of the framework of business combinations can be observed from several aspects: (1) in the general, legislative environment in relation to the sub-area, and (2) in the accounting-tax environment. The initial assumption is that, in terminological terms, there are no significant differences regarding defining business combinations with respect to legislation and related legislative frameworks. In principle, the problem is of terminological nature. Legislation includes different terms with similar meaning, such as business transfer, status change, business combination and company transformation, with the aim of tax status regulation.

The Accounting Act (NN 78/15 to 116/18) (AA) introduces the term status change. Thus, art. 15, par. 4 stipulates that entrepreneurs must make an inventory of assets and liabilities when status changes occur, while art. 19, par. 9 obliges entrepreneurs to prepare annual financial statements because of status changes. Furthermore, Croatian Financial Reporting Standards (NN 86/15) (CFRS) equates business transfer with business combination. Thus, according to CFRS 2 – Consolidated Financial Statements (NN 86/2015, pt. 2.28), the following are distinguished: a) business combinations in which one entity controls the other (subsidiaries), b) business combinations in which one entity has significant influence over the other (associated entities), and c) business combinations in which one entity together with others has joint control over a third entity (joint ventures).

Civil Obligations Act (NN 35/05 to 29/18) (COA) prescribes various forms of transfer, such as transfer of contract (art. 127), transfer of instruction (art. 131), transfer of management (art. 643), transfer of securities (art. 1142), etc. In essence, it was sought to solve the terminological conundrum through amendments to the Companies Act (NN 111/93 to 40/19) (CA). Title IX – Company Conversion subsidiarily considers and clarifies in detail the possibilities for conversion of partnerships and companies. A more detailed analysis of legal provisions shows that, in addition to company conversion, the Companies Act in principle legitimizes the term of company status change (art. 1 of CA), thereby distinguishing between acquisitions (art. 513, Title VII, Subsection 1) and mergers (art. 533, Title VII, Subsection 2).

According to Appendix A of IFSR 3 – Business Combinations, business combination is a transaction or other event in which an acquirer obtains control over one or more businesses. Transactions sometimes referred to as "true mergers" or "mergers of equals" are also business combinations. It follows that an entity (author's note: IFRS uses the term entity instead of company or entrepreneur) shall determine whether a transaction or other event is a business combination, assuming that the assets acquired and liabilities assumed constitute a business, or, if the assets acquired are not a business, the reporting entity shall account for the transaction as an asset acquisition (IFRS 3 – Business Combinations, pt. 3). Paragraphs B5 – B12 of Appendix B provide guidance on identifying a business combination. From the analytical point of view, it is necessary to distinguish business combination from, for example, acquisition of assets. The fundamental difference stems from the fact that goodwill cannot be recognised when acquiring assets. The definition of business is given in Appendix B (B7 – B12) of IFRS 3, where it is stated that a business consists of inputs and processes that, when applied to those inputs, enable creation of outputs, For these transactions, IFRS 3 provides that the acquirer at the acquisition date should recognise assets acquired, liabilities assumed and any non-controlling interest in the acquiree separately from goodwill. The problem arises when a transaction occurs between companies under common control because, in its essence, it does not reflect true intention to acquire a business that was not part of the group previously. From the perspective of consolidated financial statements, the accounting

treatment of this transaction is perfectly clear – transaction must remain completely neutral with regard to consolidated financial statements, because everything that happens within the group is simply eliminated for consolidation purposes. Another problem are separate financial statements, i.e. the question whether the resulting economic phenomenon should be neutral with regard to separate financial statements? Prior to this, the scope of transactions that are considered transactions under common control should be determined.

According to paragraph B1 of Appendix B of IFRS 3 – Business Combinations, a business combinations involving entities or businesses under common control is a business combination in which all of the combining entities or businesses are ultimately controlled by the same party or parties both before and after the business combination, and that control is not transitory. As defined in IFRS 10 – Consolidated Financial Statements, control is defined as the situation in which an investor, based on its participation in an entity, is exposed, or has rights, to variable returns from its involvement with the investee and has the ability to affect those returns through its power over the investee. Existence of such control over these companies involved in merger transactions in precisely the above is the best proof of involvement of these companies in the same peak consolidation in previous periods.

Appropriate accounting treatment of such transactions is conditioned by applicable financial reporting framework. Since entrepreneurs in Croatia are obliged to apply provisions of either International Financial Reporting Standards or Croatian Financial Reporting Standards, depending on their size, the fact that they are listed on the stock exchange, or were in a position to choose themselves, provisions of the applicable set of standards should be analysed in each individual case.

3.1.1. International Financial Reporting Standards and common control

The aforementioned IFRS 3, although it defines mergers of companies under common control in the above manner, excludes from its scope and does not apply to business combinations of entities or businesses under common control (pt. 2 of IFRS 3).

Since International Financial Reporting Standards do not contain specific provisions on the accounting treatment of such transactions, when adopting accounting policies for such transactions, companies are required to consider the provisions of IAS 8 – Accounting Policies, Changes in Accounting Estimates and Errors. Point 10 of the said standard specifies that in the absence of a Standard or an Interpretation that specifically applies to a transaction, other event or condition, management shall use its judgment in developing and applying an accounting policy that results in information that is: a) relevant and needed by the user when making economic decisions, and b) reliable so that the financial statements faithfully represent the financial position, financial performance and cash flows of the entity, reflect the economic substance of transactions, other events and conditions, and not merely the legal form, are neutral and impartial, based on prudence; and are complete in all important aspects.

In making that judgement, the applicability of the following sources in descending order should be considered (pt. 11 of IAS 8 – Accounting Policies, Changes in Accounting Estimates and Errors): a) the requirements and guidance in IFRSs dealing with similar or related issues, and b) the definitions, recognition criteria and measurement concepts for assets, liabilities, income and expenses in the Framework. Companies may also consider the most recent pronouncements of other standard-setting bodies that use a similar conceptual framework to develop accounting standards, other professional literature and accepted industry practices, to the extent that these do not conflict with the previously cited sources (pt. 12 of IAS 8).

One of the bodies relevant to financial reporting standards, in the European Union is EFRAG, which has launched a discussion on accounting for entities under common control. In October 2011, EFRAG published a Discussion Paper analysing the current state of accounting practice, and the results of the discussion were published in December 2012. The conclusion is that two methods are applied in practice: (1) merger at book value, and (2) the application of IFRS 3, although IFRS 3 excludes such transactions from its scope.

Following the hierarchy of IAS 8 – Accounting Policies, Changes in Accounting Estimates and Errors when selecting accounting policies, the approaches contained in other sets of financial reporting standards need to be analysed. FASB is one of the bodies that sets accounting standards. According to the FASB standard SFAS No. 141(R) Business Combinations, mergers of companies under common control are excluded from the scope of the standard, but Appendix D – Continuing Authoritative Guidance (paragraphs D1 – D14) of this standard contains specific instructions on accounting for these transactions. Paragraph D9 requires that the acquirer in the transaction of companies under common control recognise the acquired assets and liabilities at their carrying values in financial statements at the date of the transaction. If the carrying amounts of the assets and liabilities transferred differ from the historical cost of the parent of the entities under common control, for example, because push-down accounting had not been applied, then the financial statements of the receiving entity should reflect the transferred assets and liabilities at the historical cost of the parent of the entities under common control (EITF Issue 90-5)[1].

Therefore, in case of mergers or acquisitions of entities under common control, there is no obligation to identify the acquirer, the date of acquisition, nor obligation to determine the fair value of assets acquired and liabilities assumed, and to recognise goodwill, all in accordance with the provisions of IFRS 3. The above practically means that a merger of entities under common control does not constitute a business combination under the provisions of IFRS 3, and that carrying – consolidated values of assets and obligations may be retained in a merger or an acquisition while, as a rule, only the registered capital of the acquirer is adjusted. However, the aforementioned carrying – consolidated values of assets acquired and liabilities assumed can be maintained only conditionally, that is, if they are reported in accordance with IASs or CFRSs (Bešvir, 2018, 128).

Consequently, in the above case it is advisable to base the accounting treatment of this merger transaction of companies under common control on the transfer of the carrying values of assets and liabilities. This stems from the fact that this is a legal change, while the economic substance remained unchanged – it is still the same group, the same business, consolidation at the level of the parent company remains unchanged. Some other sets of financial reporting standards that are comparable to IFRS (for example, US GAAP), also require the described model, and it is applied in practice, which confirms the possibility of applying this model based on IAS when selecting accounting policies in the absence of an applicable IFRS.

3.1.2. Croatian Financial Reporting Standards and common control

Business combinations in which one entrepreneur together with others has joint control over a third party are joint ventures, distinguishing between jointly controlled activities and jointly controlled assets (NN 86/2015, pt. 2.41) and jointly controlled entities (NN 86/2015, pt. 2.42-2.45). The fundamental difference between the two models of establishment of joint venture lies in the fact that jointly controlled activity and jointly controlled assets result in presentation of assets, liabilities, income and expenses in financial statements in the financial statements of the entity and are not subject to consolidation of financial statements (pt. 2.41),

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[1] Issue 1 of EITF Issue No. 90-5, "Exchanges of Ownership Interests between Entities under Common Control"

compared to jointly controlled entity, which involves establishing a company, partnership or other entity in which each venturer has an interest. The entity operates in the same way as any other entity, except that the contractual arrangement between the venturers establishes joint control over economic activity of the entity (pt. 2.42). It follows that a jointly controlled entity maintains its own accounting records and prepares and presents financial statements in the same way as other entities in accordance with the relevant financial reporting standards and is subject to consolidation (pt. 2.44) in accordance with art. 23, par. 2 of AA and art. 250b (for public limited companies) and art. 431b (for limited liability companies) of CA.

However, according to the relevant Croatian Financial Reporting Standards, the requirements of CFRS 2 Consolidated Financial Statements (and IAS 28 Investments in Associates and Joint Ventures). Point 2.34 of CFRS 2 regulates the accounting treatment of business combination of entities or businesses under common control. What is crucial here is the part here is the one relating to business. Specifically, business implies that there are some inputs and processes that are applied on those inputs that have the ability to create outputs (author's note: same as in Appendix B (B 7 – B 12) of IFRS 3). Another important segment that needs to be identified is that there is common control. According to pt. 2.34 of CFRS 2, common control means that all entities or businesses are ultimately controlled by the same party or parties both before and after the business combination, and that control is not transitory. Bešvir (2018, 128) states that control over an entity implies permanent power to govern that entity's financial and business policies in order to obtain benefit from its business activities. For treatment of the part relating to capital items, pt. 2.34 of CFRS 2 prescribes that income and expenses and cash flows of the business that ceases, which were generated until the acquisition date in a business combination of entities under common control, are included in the retained earnings of the reporting entity. Furthermore, the acquisition date is defined as the date resulting from the contract and represents the date from which the income and expenses and cash flows of the business that ceases are included in the financial statements of the reporting entity.

Accordingly, it follows that the retained earnings of the acquire, as well as the profit of the current accounting period generated until the moment of business transfer are recognised as retained earnings in the company within this transfer.

3.1.3. Tax treatment and common control

Status changes are also governed by tax regulations. Art. 7, par. 9 of the Value Added Tax Act (NN 73/13 to 121/19) stipulates that transfer, with or without compensation, or in the form of a stake in the company, of total assets or a part thereof constituting an economic entity to another taxpayer (recipient) is not considered a delivery, and the taxpayer is considered the legal successor of the transferor. Regulations on Value Added Tax (NN 79/13 to 157/14) (VAT) in art. 18 points out that changing company's legal form is not subject to taxation (art. 1 and 2). In addition to the term status change, the Profit Tax Act (NN 177/04 to 121/19) (PTA) prescribes the term company transformation and in art. 19, par 1 explains that it is in fact a change of legal form whereby when the carrying values of assets and liabilities are continued (author's note: going concern) such a change does not affect taxation, otherwise, the resulting difference in capital arising from the change is considered taxable profit (art. 19, par. 2), while Regulations on Profit Tax (NN 95/05 to 1/20) (RPT) regulates the transfer of unused tax loss carry-forwards to the legal successor for up to five years (art. 38).

The Special Tax on Motor Vehicles Act (NN 15/13 to 121/19) (STMVA) uses the term status change in relation to art. 14, par. 2 of the Real Estate Sales Tax Act (NN 115/16 and 106/18)

(RESTA), which provides for tax exemption when entering real estate into a company, that is, the said tax is not paid when real estate is acquired through a merger and acquisition process. The Court Register Act (NN 1/95 to 40/19) also refers to status changes of public limited companies in art. 31, that is, limited liability companies in art. 31c, wherein the term status change includes domestic and cross-border mergers and acquisitions, divisions and transformations.

Article 19 of the Profit Tax Act in paragraph 1 defines merger as a transaction in which, without liquidation proceedings, one or more companies cease to exist through transfer of all the assets and liabilities to a new company, in accordance with the regulations governing this area. Paragraph 2 of the same Article defines acquisition as a transaction in which, without liquidation proceedings, one or more companies cease to exist through transfer of all the assets and liabilities to another existing company, in accordance with the regulations governing this area. According to the provisions of art. 5, par. 1 of the Profit Tax Act (NN 177/04 to 121/19), the tax base is the profit determined pursuant to accounting regulations as the difference between revenue and expenditures before the calculation of profit tax, increased (art. 7 in connection with art. 5, par. 9a) and decreased (art. 6 in connection with art. 5, par. 9b) according to the provisions of the Act. In the case of status changes, Article 20 of the Profit Tax Act stipulates that if during a merger, acquisition or division revaluation of assets and liabilities occurs, or the same are measured at fair value in the business records of the acquirer, the said difference is subject to profit tax. Exceptionally, if the conditions for applying the model from articles 20.a to 20.r of the Profit Tax Act are met, this taxation is deferred. However, if there is no change in the value of assets and liabilities, and the same is not required by accounting regulations, it is considered that there is continuity in taxation, which means that there is no impact on taxation.

The amended provisions of the General Tax Act (NN 115/16, 106/18, 121/19) (GTA) speak almost identically about these issues, since they prescribe qualitative criteria in terms of recognition of associated companies (art. 46 of GTA), or associated persons (art. 49 of GTA). Applying the amendments of GTA, associated companies are companies with majority interest or majority voting rights in another company, as well as subsidiaries and parent companies or companies in the same group, but also companies with mutual interests associated in the way that each company has more than a quarter stake in another company, that is, companies connected with entrepreneurial agreements, namely: business management agreements, profit transfer agreements, and other entrepreneurial agreements that are entered into the court register, in relation to Article 47 and 48 of GTA and art. 23, par. 3 of the Accounting Act. Furthermore, within the meaning of the same act, associated persons are two or more natural or legal persons who have at least one of the following conditions fulfilled: (1) they represent one risk for the fulfilment of obligations arising from tax-debt relationship, because one of them has, directly or indirectly, control over the other or others (art. 49, par. 1, pt. 1), (2) they represent one risk for the fulfilment of obligations arising from tax-debt relationship, because one of them has, directly or indirectly, significant influence over the other or others (art. 49, par. 1, pt. 2), and (3) there is no control relationship or significant influence between them, but they represent one risk for the fulfilment of obligations arising from tax-debt relationship, because they are mutually connected so that there is a high probability that deterioration or improvement of the economic and financial condition of one person may result in deterioration or improvement of the economic and financial condition of one or more other persons, because there is possibility for transferring losses, profits or ability to pay between them (art. 49, par. 1, pt. 3). According to an entirely new provision of GTA, associated persons are those natural or legal persons that represent one risk for the fulfilment of obligations arising from tax-debt relationship by ensuring continuity of activities in one space, using the same equipment

(art. 49, par. 1, pt. 4 of GTA connected to art. 20 of the Profit Tax Act (NN 177/04 to 121/19)). The latter is explained by Dojčić (2019), stating that contracts and business relationships between associated persons will be tax deductible only if other persons, who are not in such mutual relationship, would determine such contractual conditions or establish such business relationships under the same or similar circumstances, which means that application of the arm's length principle is mandatory. In this regard, the Profit Tax Act explicitly prescribes (art. 13, par. 1) that if such prices or other conditions that are different from prices or other conditions agreed between unassociated persons are agreed between associated persons in their business relationships, then all profits in the amount in which they would have been made in the case of relationships between unassociated persons are included in the tax base of associated persons.

It is simply and explicitly concluded that the key moment lies in the continuity of taxation, as well as in the fact that avoidance of calculation and payment of profit tax depends on whether the assets and liabilities of the acquired or merged company in the new company (the so-called acquirer company) are presented at book value. From the cited provisions of the Profit Tax Act it follows that, in the case of status changes in which there is no change in the valuation of assets and liabilities, it is possible to achieve a tax neutral acquisition transaction. In doing so, it is key that these are status changes governed by special regulation. Thus, it follows that, essentially, companies have the obligation to prove that one of the aforementioned procedures is carried out solely for justified economic reasons (company restructuring, or rationalisation and efficiency of operations) (IASB, 2011), and not because of tax abuse and aggressive tax planning.

4. Future of the accounting model for business combinations under common control – instead of conclusion

Recognising the importance of this topic, that is, transactions under common control, in 2007, the IASB included the topic of business combinations under common control in its plan. Although 13 years have already passed since the first plan, there is still no final solution in the form of standards. The progress that has been made relates to the fact that this topic, or area, was declared a priority in the 2015-2016 plans. To date, the scope and framework of possible alternatives for appropriate accounting treatment have been defined and prepared. These alternatives include: (1) historical cost, (2) current value, and (3) continuation of predecessor accounting. Treatment of possible differences between compensation and net assets is a separate issue. Application of historical cost would result in the allocation of the difference between compensation and net assets on individual components of assets based on net assets. Application of the concept of current value would basically represent the application of IFRS 3 on these transaction, which would result in the recognition of goodwill, while continuing predecessor accounting would imply continued measuring of net assets without restatements, and any difference would be seen as a payment transaction (within equity). The above represent possible, theoretical concepts, of which either the most appropriate one should be selected, or the circumstances in which some of the possible models would be applied should be prescribed. Although it was scheduled for the second half of 2019, according to the current state, release of the Discussion Paper is expected in the first half of 2020 (IASB, 2019).

It can be concluded that status change transactions of companies under common control are significant in the operations of groups. Their appropriate accounting treatment has been particularly prominent in recent years. Consequently, accounting is trying to find an adequate model for this phenomenon. Business combinations of companies under common control also have a significant tax aspect, which is particularly important in cases involving companies that are residents of different countries. The EU Directive on the common system of taxation

in the case of status changes is an example of a model for solving the problem in international environment.

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IS GOOD GOVERNANCE IMPORTANT PREDICTOR OF EDUCATION QUALITY?

ABSTRACT

Education is an important issue in the growth and development processes and has the highest priority in the majority of national development strategies. However, education reforms, education quality and education sector in general is highly effected by the institutional and legislative framework and practices. The main aim of the paper is to investigate the effect of country's governance practices on education quality in the case of selected European Union (EU) member states for the period 2003 - 2018. Specifically, the paper explores to what extent good governance, as defined by the World Bank in the Worldwide Governance Indicators (WGI), is predictor of education quality. The analysis of education in this paper uses various World Bank's education indicators (government expenditure per student and enrollment ratios for primary, secondary and tertiary levels and research and development expenditures) and a set of socio – economic control variables such as GDP pc and country's population. The analysis focuses on the use of panel data model for selected EU states, including correlation analysis to examine the assumed relationships among variables of interest. Panel data analysis is conducted in order to determine which dimensions of good governance are a significant predictor of education quality when controlling for country's socioeconomic factors. Results show different effects of these dimensions at different education levels. Voice and accountability (VA) and Rule of law (RL) do not have significant effect on any of analyzed education indicators, while Government effectiveness (GE) has a statistically significant (and dominantly positive) effect on five out of eight analyzed indicators of education. By providing some insight for the existing (limited) knowledge base in the understanding of the relationship between governance practices and education quality, this study seeks to affirm the concept of good governance as an important predictor of education.

Key words: *governance, education, quality, EU.*

1. Introduction

Good governance is one of the terms in the contemporary literature and economic practice whose definition is to some extent unclear. Its meaning is different to different actors (organizations, parts of organizations etc.) thus the definition of the term differs. The term governance is used in different context such as: global, international, national and local governance, corporate governance and others. However, there is no doubt that governance has

in important role in the development process. „Good governance is perhaps the single most important factor in eradicating poverty and promoting development "the Secretary-General Kofi Annan said in his annual report to the General Assembly, 21 September 1998 (UN, 1998). The concept emerged in the second half of 1980s when the idea of minimal state started to dominate the world development agenda. World Bank (1989) report is considered to be the first official World Bank publication that has explicitly referred to the term „governance"(Williams and Young, 1994; Shihata, 1995; Stein, 2008). World Bank (1992, 1) in its publication „Governance and development "defined the term as: „the manner in which power is exercised in the management of a country's economic and social resources for development. " The definition itself was furthermore developed in World Bank (1994, vii) as „Good governance is epitomized by predictable, open, and enlightened policymaking (that is, transparent processes); a bureaucracy imbued with a professional ethos; an executive arm of government accountable for its actions; and a strong civil society participating in public affairs; and all behaving under the rule of law." World Bank (2002, 99) also identifies good governance with the ability of political institutions to support markets by stating the following „The ability of the state to provide these institutions is therefore an important determinant of how well individuals behave in markets and how well markets function." Today's understanding of good governance by the World Bank can still be explained by these definitions.

Besides the World Bank who has set the roots of good governance as we know it today, the key role in the promotion is also played by other international organizations as the International Monetary Fund (IMF), United Nations (UN), Organization for Economic Cooperation and Development (OECD) and others. According to OECD (2006) good governance is characterized by participation, transparency, accountability, rule of law, effectiveness, equity, etc., while to UNESCAP (n.d.) governance means: the process of decision-making and the process by which decisions are implemented (or not implemented). Also, European Commission has identified good governance together with legal certainity as a neccessity for stable business environment. EC (2014) has identified several criteria for economic and social interactions among institutions. These criteria include „the absence of corruption, a workable approach to competition and procurement policy, an effective legal environment, and an independent and efficient judicial system." IMF (2017) mostly covers economic governance with the focus on macroeconomic performance and the country's ability to pursue specific economic policies. The IMF promotes good governance in two main areas: (i) the management of public resources through reforms covering public sector institutions; and (ii) the development and maintenance of a transparent and stable economic and regulatory environment conducive to private sector activities (IMF, 2017). The economic reforms promoted by the IMF and the WB (World Bank) under the framework of the Washington Consensus have become the top priority in the development agendas of countries around the world (Stiglitz, 2002; Chomsky, 2006). Stiglitz, a critic of WB and „one size fits all approach" states that „developing countries have been forced to adopt a very specific view of governance, of the division of roles and functions of market and state institutions, as well as radical economic recipes which are not even shared and adopted by the industrialized countries themselves" (Stiglitz, 2002, 289, 295).

This paper uses the WB's Worldwide Governance Indicators (WGI) as measures of governance. The WGI are produced by Kaufmann and Kraay, thus in this paper we employ the following definition of governance as "...the Traditions and institutions by which authority in a country is exercised. This includes (a) the process by which governments are selected, monitored and replaced; (b) the capacity of the government to effectively formulate and implement sound polices; and (c) the respect of citizens and the state for the institutions that govern economic and social interactions among them" (Kaufmann, Kraay, and Mastruzzi (2010, 4). The scope

and time period used in the research in this paper were highly determined by the available data for the countries of interest. Using the WGIs for 28 European Union (EU) countries during the time period 1998 - 2018 this paper attempts to find the answers on the following research questions:

RQ1: Does governance as measured by the WGIs have an effect on education?

RQ2: At what level (primary, secondary, tertiary or R&D activities) are the effects of governance as measured by the WGIs most significant?

RQ3: Which specific good governance dimension(s) have the most significant effect on selected education indicators?

The main objective of this paper is to examine the effect of good governance as defined by the WB on the education. For this purpose, paper employs education expenditures and education enrollment. Both of these indicators are used at the primary, secondary and tertiary levels, while expenditure on research and development and scientific publications are used to analyze research and development activities. The paper is organized as follows: after introduction, literature review provides the in depth analysis of different approaches in defining and measuring good as well as the analysis of the importance of good governance for education. The detailed explanation of data and methodology is provided in the third part of the paper. This is followed by the presentation of results and the discussion. Concluding remarks and bibliography are provided at the end of the paper.

2. Literature Review – How "good" is good governance for education?

Education is the center of development and growth processes, thus if those processes are not governed well the economic and social benefits of education will not be visible and economic and social functions of education will not be fulfilled. Development and growth processes demand economic, social, political and institutional mechanisms (both public and private) to bring a positive change in a country. If we refer to previously provided definition by Kaufmann, Kraay, and Mastruzzi (2010, 4), governance can be considered as a mix of these mechanisms. Governance, as a theoretical and taxonomical construct, captures the relationship between state and non-state actors in the formulation of policy and delivery of public services. However, much has been written about this subject and yet, it still remains to certain extent unclear (Johnston, 2015, 15). Very dynamic economic, social, political and institutional global environment has caused the change in governance practices too. Bouckaert (2016) has identified seven shifts that have resulted in a need for change of governance systems and practices. Some of them are: change in global geopolitics, expansion of European Union, Global economic crisis, Sustainable Development Goals (SDGs) and others. Besides these listed, there are also regional and state level changes that are interconnected and country-specific. However, the fact is that the reality of governance is changing.

Contemporary literature in this field provides limited and also partial analysis of the relationship between governance and different aspects of education system. Standards and legislation set a framework for accountability and transparency and thus are important for education overall since education services are (mostly) public services. In education context good governance provides constitutional and legal framework that supports universal access to basic education, protection of child rights, elimination of child labor, but also provides framework for citizen participation that is an important factor for oversight of public services, such as services provided by the schools. Such governance practices also stimulate the development of partnership and dialogue that contributes to the access to basic education and its quality (USAID, 2003, 7). Lewis and Pettersson (2009) also discuss the access to education in the

context of good governance stating that: standards, incentives, information, and accountability are critical for higher performance of education services. High performance will raise the level of education outputs (e.g. school retention) and at the end contribute to outcomes such as student test scores (Lewis and Pettersson, 2009).

If standards, accountability and performance levels information are not met, resulting in poor governance in education, this may result in inefficiency in education service provision or no service at all and lead to corruption. Authors such as Mauro (1995), Knack and Keefer (1995), Olson (2000), Friedman et al. (2000), Meon and Sekkat (2005) have shown the negative impact of corruption on GDP growth and level of investments. Mocan (2008) and Chatterjee and Ray (2014) among others have also shown the negative impact of corruption on wider aspects of society such as: crime and conflict, inequality, civic engagement etc. Role of government is an important one. It should enable the creation of very specific policy mechanisms and legalization that will deal with issues that limit the equity in education and enable equal access to all, regarding gender, financing, language of instruction etc. Furthermore, this means that if government enables this it will lead to increase in returns to public education investment and improvement of the overall performance of the education sector (Bardhan 1997, 139). Decrease in inequality and increase of income will be one of the positive effects of such case. Nir and Kafle (2013, 118) have shown that the political stability is a useful predictor of education quality arguing that more stable political environments are more likely to create quality processes and outcome in public education systems. Nir (2002) has identified decentralization and local level autonomy as an efficient path to increase stability that can as a final goal improve education quality. However, decentralization of educational authority needs to be accompanied by principles of transparency and accountability in order to fully function. Stable political environment is effective in policy implementation, coordination and monitoring (Nir and Kafle, 2013).

Education has social benefits that are mostly expressed in terms of positive effects on security, health, civic participation, political stability etc. (McMahon, 2002). If lack of good governance practices limits the provision, equity and equality of education services this will result in multiple negative effects on country's development and growth. Thus, good governance is there to enable the society to enjoy the benefits of education and this paper analyses the role of good governance at different levels of education. However, one can raise a question: what is a good policy environment? For a certain period of time it was based on a notion that good policy environment is one that is based on minimal state approach with the domination of pro-market reforms based on the Washington Consensus at the end of 1980s and beginning of 1990s. „The claim was that a smaller state would be good for growth, and growth would be good for poverty reduction"Toye and Toye (2005, 7). Sanstiso (2002, 11) has also criticized the WB approach to governance stating that „The World Bank's understanding of good governance continues to reflect a concern over the effectiveness of the state rather than the equity of the economic system and the legitimacy of the power structure." Creating new and improving the performance of the institutions should also a goal and not only minimizing the size and/or number of institutions. Despite the critics, WB has done an important work in this field. Developing and continuously improving the indicator based system is an important accomplishment.

Governance is very complex term and multidisciplinary approach is needed in order to implement and fully integrate good governance practices in country's economic, social, political and institutional mechanisms, thus cooperation and coordination in the policy development process is a necessary condition to fully enjoy the benefits of good governance and all that it brings to society. In particular, good governance is important for all stakeholders and their

performance in education system (government, schools, teachers, students etc.). It raises questions of need for politically stable, effective government, whose goals are improvement of its performance through accountable and transparent work. The complexity of good governance raises the question of defining the term which is an important issue especially for the measurement purposes.

Kaufmann, Kraay, and Mastruzzi's definition is used in the World Bank's approach of measuring good governance across the globe. World Bank's Worldwide Governance Indicators (WGI) project reports aggregate and individual governance indicators for over 200 countries and territories, for six dimensions of governance: Voice and Accountability (VA), Political Stability and Absence of Violence/Terrorism (PV), Government Effectiveness (GE), Regulatory Quality (RQ), Rule of Law (RL) and Control of Corruption (CC) Worldwide Governance Indicators (online).[1] Thus by employing WB's WGIs in the analysis of good governance effect on education in selected set of countries we limit the definition and measurement to the approach promoted by the World Bank. The presented review of contemporary literature shows that previous authors have analyzed only the effect of specific aspects of governance on the education. This paper fills in this literature gap by providing a comprehensive analysis of the effect of good governance dimensions as defined by the WB on the education in selected countries for the defined period of time. Also, this paper has practical implication through creation of evidence based recommendations in education and promoting the importance of evidence-based decision making.

3. Data Sources and Methodology

The data set for this study covers EU28 Member States[2] over the period of 1998 – 2018 (latest data available) and it was obtained from different secondary sources.

3.1. Good governance indicators

This paper employ the definition of governance provided by Kaufmann, Kraay, and Mastruzzi (2010, 4) and uses WB's WGIs as its measure. The Worldwide Governance Indicators (online) provides access to (aggregate) governance indicators that combine data from individual data sources such as different organisations, experts, managers and others. Over 30 data sources are used in calculating composite governance indicators. These data sources are rescaled and combined to create six aggregate indicators using the methodology known as an unobserved components model (UCM).[3] Good governance dimensions covered in WGI's are: Voice and Accountability (VA); Political Stability and Absence of Violence/Terrorism (PV); Government Effectiveness (GE); Regulatory Quality (RQ); Rule of Law (RL) and Control of Corruption

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[1] The last year for which data in Worldwide Governance Indicators (online) is available is 2018.

[2] Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Italy, Ireland, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Romania, Spain, Slovakia, Slovenia, Sweden and the United Kingdom.

[3] This method is used to construct a weighted average of the individual indicators for each source. UCM is used to make the 0-1 rescaled data comparable across sources, and then to construct a weighted average of the data from each source for each country. The UCM assigns greater weight to data sources that tend to be more strongly correlated with each other. The composite measures of governance generated by the UCM are in units of a standard normal distribution, with mean zero, standard deviation of one, and running from approximately -2.5 to 2.5, with higher values corresponding to better governance. WGI database also reports the data in percentile rank term, ranging from 0 (lowest rank) to 100 (highest rank) Worldwide Governance Indicators (online).

(CC). Measures of these six dimension are used as separate good governance indicators in the analysis and are explained in Table 1.

Table 1: WGI indicators

Variable	Definition of variable
VA_{ij}	Voice and Accountability - Reflects perceptions of the extent to which a country ($_i$) citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media during year ($_j$).
PV_{ij}	Political Stability and Absence of Violence/Terrorism - Measures perceptions of the likelihood of political instability and/or politically-motivated violence, including terrorism in country ($_i$) during year ($_j$).
GE_{ij}	Government Effectiveness - Reflects perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies in country ($_i$) during year ($_j$).
RQ_{ij}	Regulatory Quality - Reflects perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development in country ($_i$) during year ($_j$).
RL_{ij}	Rule of Law - Reflects perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence in country ($_i$) during year ($_j$).
CC_{ij}	Control of Corruption - Reflects perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests in country ($_i$) during year ($_j$).
Note: All six WGI dimensions are reported in two ways: (1) in their standard normal units, ranging from approximately -2.5 (weak) to 2.5 (strong), and (2) in percentile rank terms from 0 to 100, with higher values corresponding to better outcomes. This paper uses the first way of reporting.	

Source: World Bank WGI Database

The following subsection of this paper (3.2.) is focused on the explanation of education indicators that will be used later on in the analysis of relationship between good governance and education.

3.2. Education indicators

In this paper we employ various WB's education indicators as shown in the Table 2. Data for all education indicators is available in the World Bank Database.

Table 2: Education indicators

Education level	Variable	Definition of variable
Primary education	$GovP_{ij}$	Government expenditure per student, primary (% of GDP per capita) for country ($_i$) during the year ($_j$).
	$EnrolP_{ij}$	Gross enrollment ratio is the ration of total enrollment, regardless of age, to the population of the age group that officially corresponds to the primary education level, in % for country ($_i$) during the year ($_j$).
Secondary education	$GovS_{ij}$	Government expenditure per student, secondary (% of GDP per capita) for country ($_i$) during the year ($_j$).
	$EnrolS_{ij}$	Gross enrollment ratio is the ration of total enrollment, regardless of age, to the population of the age group that officially corresponds to the secondary education level, in % for country ($_i$) during the year ($_j$).
Tertiary education	$GovT_{ij}$	Government expenditure per student, tertiary (% of GDP per capita) for country ($_i$) during the year ($_j$).

Education level	Variable	Definition of variable
	$EnrolT_{ij}$	Gross enrollment ratio is the ration of total enrollment, regardless of age, to the population of the age group that officially corresponds to the tertiary education level, in % for country (i) during the year (j).
Research and development	$R\&D_{ij}$	Research and development expenditure (% of GDP) for country (i) during the year (j).
	$Journal_{ij}$	Scientific and technical journal articles in numbers for country (i) during the year (j).

Due to the lack of data from international student testings, education indicators available from the World Bank database were selected for the analysis in this paper, ie. enrollment and government expenditure indicators were selected for primary, secondary and tertiary education and R&D. For the purposes of anayzing the research and development segment, government expenditure was also used as well as number of publish scientific and technical journal articles as a measure of scientific publications in countries of interest. Also, education indicators in the World Bank database provide data for selected countries and time period for which the relationship between education and good governance is analyzed. Selected indicators enable the analysis of two important aspects of education: (i) investment in education (through government expenditure) and (ii) outcomes of education (through enrolment) in EU countries. Branelly et al. (2011) has used enrolment rates of tertiary education to analyze the relationship between higher education and good governance. Zaman (2015) has also analyzed this relationship by using higher education expenditure and enrolment, literacy rates and research and development expenditure. Data availability considerations were also taken into account when selecting indicators for the analysis in this paper.

WGIs have also been criticized. Since WGIs are exclusively rely on perceptions - based governance data sources (Kaufman, Kraay and Mastruzi, 2007, 5) critics relate this to the increased possibility of getting biased results (towards business elite or households who are surveyed and assessed). Another dominant critic is lack of transparency in data sources. Some data sources of WGIs are publicly available (such as WEF, EBRD, Gallup and others) while some are only commercially available. The way how these and other critics are answered by the authors of WGIs themselves is available in Kaufman, Kraay and Mastruzi (2004, 2007) and Kaufman, Kraay and Zoido - Lobaton (1999a, 1999b). Additional variables are included in the analysis of relationship between education and good governance in this paper to account for other country specifics. These are summarized in the Table 3 with corresponding definitions.

Table 3: Additional variables

Variable	Definition of variable
$GDPpc_{ij}$	Gross Domestic Product (per capita) for country (i) during year (j)
POP_{ij}	Total population of country (i) during year (j) divided by 1 000.

Source: World Bank Database

Since in this analysis expenditure (expressed as % GDP) and enrolment (gross enrollment ratio) indicators (see Table 2) are used, *GDPpc* and *POP* (total population) indicators are used as control variables to account for the increase of GDP and population. In order to analyze the assumed relationship between good governance and every level of education and scientific outcome, an econometric analysis was conducted based on the following forms of equations:

Equation 1:
$$lnGovP_{ij} = c + \beta_1 \times lnVA_{ij} + \beta_2 \times lnPV_{ij} + \beta_3 \times lnGE_{ij} + \beta_4 \times lnRQ_{ij} + \beta_5 \times lnRL_{ij} + \beta_6 \times lnCC_{ij} + \beta_7 \times lnGDPpc_j + \beta_8 \times lnPOP_{ij} + u_{ij} + \varepsilon_{ij}$$

Equation 2:
$$lnEnrolP_{ij} = c + \beta_1 \times lnVA_{ij} + \beta_2 \times lnPV_{ij} + \beta_3 \times lnGE_{ij} + \beta_4 \times lnRQ_{ij} + \beta_5 \times lnRL_{ij} + \beta_6 \times lnCC_{ij}$$
$$+ \beta_7 \times lnGDPpc_j + \beta_8 \times lnPOP_{ij} + u_{ij} + \varepsilon_{ij}$$

Equation 3:
$$lnGovS_{ij} = c + \beta_1 \times lnVA_{ij} + \beta_2 \times lnPV_{ij} + \beta_3 \times lnGE_{ij} + \beta_4 \times lnRQ_{ij} + \beta_5 \times lnRL_{ij} + \beta_6 \times lnCC_{ij} + \beta_7$$
$$\times lnGDPpc_j + \beta_8 \times lnPOP_{ij} + u_{ij} + \varepsilon_{ij}$$

Equation 4:
$$lnEnrolS_{ij} = c + \beta_1 \times lnVA_{ij} + \beta_2 \times lnPV_{ij} + \beta_3 \times lnGE_{ij} + \beta_4 \times lnRQ_{ij} + \beta_5 \times lnRL_{ij} + \beta_6 \times lnCC_{ij}$$
$$+ \beta_7 \times lnGDPpc_j + \beta_8 \times lnPOP_{ij} + u_{ij} + \varepsilon_{ij}$$

Equation 5:
$$lnGovT_{ij} = c + \beta_1 \times lnVA_{ij} + \beta_2 \times lnPV_{ij} + \beta_3 \times lnGE_{ij} + \beta_4 \times lnRQ_{ij} + \beta_5 \times lnRL_{ij} + \beta_6 \times lnCC_{ij} + \beta_7$$
$$\times lnGDPpc_j + \beta_8 \times lnPOP_{ij} + u_{ij} + \varepsilon_{ij}$$

Equation 6:
$$lnEnrolT_{ij} = c + \beta_1 \times lnVA_{ij} + \beta_2 \times lnPV_{ij} + \beta_3 \times lnGE_{ij} + \beta_4 \times lnRQ_{ij} + \beta_5 \times lnRL_{ij} + \beta_6 \times lnCC_{ij}$$
$$+ \beta_7 \times lnGDPpc_j + \beta_8 \times lnPOP_{ij} + u_{ij} + \varepsilon_{ij}$$

Equation 7:
$$lnR\&D_{ij} = c + \beta_1 \times lnVA_{ij} + \beta_2 \times lnPV_{ij} + \beta_3 \times lnGE_{ij} + \beta_4 \times lnRQ_{ij} + \beta_5 \times lnRL_{ij} + \beta_6 \times lnCC_{ij} + \beta_7$$
$$\times lnGDPpc_j + \beta_8 \times lnPOP_{ij} + u_{ij} + \varepsilon_{ij}$$

Equation 8:
$$lnJournal_{ij} = c + \beta_1 \times lnVA_{ij} + \beta_2 \times lnPV_{ij} + \beta_3 \times lnGE_{ij} + \beta_4 \times lnRQ_{ij} + \beta_5 \times lnRL_{ij} + \beta_6 \times lnCC_{ij}$$
$$+ \beta_7 \times lnGDPpc_j + \beta_8 \times lnPOP_{ij} + u_{ij} + \varepsilon_{ij}$$

Where:
>   c - the constant;
> u_i – individual effects;
> ε_{it} - the error of the model.

According to Baltagi (2008) the first step when working with panel data is to test for the use of the data series through pooled OLS or as a panel data model. The analysis was conducted in STATA 13 and the results suggest the reject of null hypothesis ($u_i=0$) which furthermore mean that the panel data is better. The next step was to test for the use of fixed (FE) or random effects (RE) model by using the Hausman test. The test has shown (for all eight models) that a FE model is better compared to the RE model. Thus, the FE regression results are presented in the paper.

4. Results and Discussion

All variables are used in the natural logarithmic form. The time series dimension is complete for all analyzed countries in the data set and therefore the panel is balanced. The choice of variables was driven by the existing literature as well as data availability. Table 4 provides descriptive statistics for all variables used in the analysis.

Table 4: Descriptive statistics of used data set (1998 - 2018)

Variable	Obs	Mean	Std. Dev.	Min	Max
GovP	364	19.79408	4.695202	9.67488	36.13293
EnrolP	541	102.0605	4.705875	86.90768	126.5754
GovS	376	24.61217	6.098234	0	64.66524
EnrolS	543	105.9427	16.01829	77.53737	163.9347
GovT	385	30.12938	10.9589	11.57517	73.58268
EnrolT	517	60.31495	18.65771	8.99352	136.6026
RD	543	1.424328	.8689172	.20125	3.91087
Journal	392	19493.93	26889.92	62.9	109262
VA	532	1.120169	.340881	-.2924617	1.800992

Variable	Obs	Mean	Std. Dev.	Min	Max
PV	532	.7849993	.4226779	-.4737767	1.760102
GE	532	1.139403	.6159741	-.5690975	2.353998
RQ	532	1.190452	.4501072	-.1087842	2.098008
RL	532	1.120595	.6186089	-.3571571	2.100273
CC	532	1.044939	.7905103	-.615191	2.469991
GDPpc	588	27791.76	20233.39	1609.281	119225.4
POP	588	17860.91	22590.09	385.287	82927.92

The correlation matrix between all the variables used in the estimation is given in the Appendix. Two different forms of relationships are visible. First is the strong (positive) relationship among the good governance dimensions. Frey (2008) and Langbein and Knack (2010) criticize the lack of clarity behind each of the six dimensions and points out that to some extent two or more dimensions measure the same elements. The second form of relationships is visible in the correlation between different education indicators and good governance dimensions. The correlation coefficient between majority of selected education indicators and good governance dimensions is positive indicating a positive relationship between governance dimensions and education indicators in EU members. Table 5 shows the results of FE regressions (based on the Equations no. 1 to no. 8) when different education indicators (as defined in Tables 1, 2 and 3) were set as a dependent variables.

Table 5: FE regressions (1998 – 2018)

	VA	PV	GE	RQ	RL	CC	GDPpc	POP
GovP	0.083492	-0.0298523	.2162321**	-.1179897	.3413445	-.0234882	.2329532**	1.466982***
EnrolP	0.064541	-.03426017**	-.05682031*	-.1438256	-.1225841	.0136154	-.1674517***	.6253978**
GovS	-0.14156	-.0483565	.32163183*	.1126758	-.25846	-.0326262	.1083128**	.7134248**
EnrolS	0.046281	.009789	-.0366015	.1411365	.2143977	-.1071432	-.1282347**	1.414967***
GovT	-0.21614	-.0698702*	.07361387	.004983	-.0957258	.0913798**	-.248572***	.4356147
EnrolT	0.072652	.0272381	.0734458	-.1866757	.0381543	-.069837**	.353224***	1.547783**
R&D	-0.13553	-.0076577	.1784983**	-.5985736**	-.0348637	.0219572	.2847483**	.3776875
Journal	0.017231	-.0894312**	.5261243**	-.838438***	.2348167	.0103976	1.247182**	4.267823***

Important note: * p<.05; ** p<.01; *** p<.001

Different patterns of effect of WGI's six dimensions on three levels of education are visible. All good governance dimensions have a significant effect on the level of *GDPpc* in analyzed countries, where five of education indicators have a significant positive effect on the level of country's GDPpc.[4] the biggest (positive) effect is on the scientific publications (*Journal*) which means with 1% increase in *GDPpc*, number of articles published in scientific journals increased by 1.247%. Increase in the level of country's population also results in the significant increase of all analyzed education indicators. This is particularly expected in the indicators that measure

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[4] In case of fixed effects panel data regression of *GDPpc* as dependent variable and WGIs six dimensions as independent variable, results show that five dimensions have significant effect on *GDPpc*, ie. *VA* and *PV* significantly negative effect while *GE*, *RQ* and *RL* significantly possitive effect.

enrollment into primary, secondary and tertiary education since with the increase in population numbers, more students would be enrolled in education institutions at all three analyzed levels.

There is a strong relationship between governance as defined and measure by the WB and different aspects of education that are analyzed in this paper. First WGI dimension *VA* (Voice and accountability) according to the results from Table 5 does not have a statistically significant effect on any of the selected education indicators. The results for the second WGI dimension (*PV*) indicate that with the increase of political instability and violence by 1%, enrolment in primary education decreases (0.0343%) as well as government expenditure in tertiary education (.0699%) and number of scientific articles (0.0894%) decreases too. Nir and Kafle (2013) have also shown the existence of significant effect of political stability on public education quality by using World Bank's Political Risks Service Report. It seems that Government effectiveness (*GE*) has significant effect on most of the selected education indicators. Increase in *GE* by 1% increases *R&D* and *Journal* by 0.1785% and 0.526% respectively. Government effectiveness also has a significant positive effect on primary and secondary government expenditure. As government became more efficient in public service provision, formulation, implementation and credibility, they increase their education investments.Regulatory quality (*RQ*) shows ambiguous results, indicating that increase in *RQ* by 1% decreases level of government's investment in *R&D* (0.5986%) and scientific publication *Journal* (0.8384%). A possible explanation for such situation is that *RQ* reflects perceptions about policies that are friendly towards private sector development which at the same time might not be that friendly towards public service (in this case education) development. It seems that rule of law (*RL*) is weakly connected to selected education indicators in EU countries. Branelly at al. (2011) has shown a positive effect of good governance on higher education in East Asia and Pacific but no such trend in Central and Eastern Europe. Lastly, control of corruption (*CC*) has significant effect at the tertiary education level. If *CC* is increased by 1%, government investment in tertiary education increases by 0.09148% but enrolment in tertiary education decreases by 0.0698%, both statistically significant. Possible explanation of negative effects of increase of control of corruption is „greasing the wheels hypothesis" explained in Leff (1964), Huntington (1968), Meon and Sekkat (2005), Dreher and Gassebner (2011) and others who discuss positive effect of corruption that mostly through bribery stimulates officials to complete certain procedures. Thus, in case of increase of *CC* this might mean increase in entry restrictions at tertiary level that as a final result lead to decrease in enrolment at this education level.

5. Conclusion and Recommendations

This paper brings more clarity upon the relationship between good governance and investment in education through government expenditure and enrollment rates in EU countries. By using panel analysis with fixed effects regression for the current 28 EU member states for the period 1998 - 2018 and data from WGIs and World bank's databases, the relationship between six dimensions of WGIs and selected education indicators was analyzed. This study confirms the assumed connection between good governance dimensions as defined by the World Bank and selected education indicators. Results show different effects of these dimensions at different education levels. Voice and accountability (*VA*) and Rule of law (*RL*) do not have significant effect on any of analyzed education indicators, while Government effectiveness (*GE*) has a statistically significant (and dominantly positive) effect on five out of eight analyzed indicators of education.

These results are important from policymakers' point of view especially for evidence-based decision making and reform processes. This research has found evidence of a statistically

significant relationship between education and certain aspects of good governance practices. Therefore, policy implications of this research could be seen in defining specific reform to target the good governance dimensions that have significant effect on the education. Recommendations in improving the good governance in education are formed in direction of increasing accountability and transparency at all levels and stakeholders.

However, wider context should be considered as well as limitation of data sets used in this research (as discussed earlier in the paper). Education reforms should be considered in broader continuous governance and other reforms. In case of analyzed EU28 Members States extensive context is defined among others in Europe2020 and Education and Training 2020 (ET2020) agendas. It is necessary to integrate the principles of good governance into education system. Also, is necessary to enhance partnerships and participation of all stakeholders included in the education system. This will result in continuous improvement in meeting the needs of students and labor market thus minimizing the skills mismatch and improving the education quality.

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APPENDIX: Correlation matrix (1998-2018)

	GovP	EnrolP	GovS	EnrolS	GovT	EnrolT	R&D	Journal	VA	PV	GE	RQ	RL	CC	GDPpc	POP
GovP	1.0000															
EnrolP	-0.1377	1.0000														
GovS	0.4909	0.0058	1.0000													
EnrolS	0.0606	0.0897	0.2325	1.0000												
GovT	0.1898	-0.0257	0.5507	0.3231	1.0000											
EnrolT	0.2587	-0.1715	0.0730	0.3334	-0.0946	1.0000										
R&D	0.1156	-0.0727	0.3305	0.4334	0.5231	0.5699	1.0000									
Journal	-0.0329	0.1046	0.0156	0.0815	0.0556	-0.0097	0.2249	1.0000								
VA	0.1272	0.0729	0.4519	0.5137	0.6254	0.3137	0.7494	0.2489	1.0000							
PV	0.0076	-0.1228	0.1928	0.1453	0.3485	0.2807	0.5028	-0.3294	0.5425	1.0000						
GE	0.1368	-0.0196	0.5069	0.5138	0.6923	0.2969	0.7664	0.1830	0.9152	0.5169	1.0000					
RQ	0.0829	-0.0062	0.3831	0.4218	0.5942	0.2688	0.6608	0.2069	0.8668	0.4878	0.8873	1.0000				
RL	0.1477	0.0212	0.4849	0.4798	0.6603	0.3338	0.7786	0.2361	0.9249	0.5272	0.9447	0.9101	1.0000			
CC	0.1419	0.0539	0.4645	0.5154	0.6895	0.3413	0.8078	0.2644	0.9282	0.4534	0.9390	0.8867	0.9460	1.0000		
GDPpc	0.1301	0.0731	0.4161	0.5067	0.6536	0.2857	0.7643	0.3726	0.8236	0.3653	0.8127	0.7898	0.8419	0.8731	1.0000	
POP	-0.0623	-0.0553	-0.0780	-0.0301	-0.0799	-0.0708	0.0546	0.9339	0.0680	-0.4624	-0.0325	-0.0285	0.0084	0.0600	0.1789	1.0000

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THE IMPACT OF MARKETING COMMUNICATION STRATEGY ON BUILDING BRAND PERSONALITY OF A PRIVATE HIGHER EDUCATION INSTITUTION

ABSTRACT

High level of market competitiveness in higher education is increasing the need for understanding, managing and strengthening the brand of higher education institutions, and especially private higher education institutions with the purpose of gaining the competitive edge. Brand personalities of higher education institutions, due to their symbolic function, help to create strong brand associations in the minds of potential students. The purpose of this paper was to test the role of marketing communication strategy toward potential students in the development of brand personality of a higher education institution. Primary research was conducted by surveying a sample of 201 students of undergraduate and graduate study programmes at the Libertas International University. The obtained results indicate that a marketing communication strategy can positively impact the development of brand personality that is significant for the image of a higher education institution on the higher education market.

Key words: *private higher education, marketing, branding, brand personality.*

1. Introduction

With regard to the increased competition on the higher education market, private higher institution branding is considered a key factor in planning of its business strategies (Almadhoun, Dominic, Woon, 2011; Teh, Salleh, 2011; Rutter, Roper, Lettice, 2016; Ostojić, 2020). Brand management techniques can be applied in order to differentiate education supply and positioning on the higher education market (Keller, 2001; Hoeffler, Keller, 2003; Freling, Forbes, 2005; Ostojić, 2020). Brand personality communicates the language and behaviour of the private higher education institution through messages that are delivered via diverse communication channels (Malär et al., 2012). With this in mind, the development of a higher education institution's brand personality can ensure a unique, consistent and permanent message for potential students (Opoku, 2005; Sweeney, Brandon, 2006; Alwi, Kitchen, 2014). For example, specific universities in the United Kingdom have been allocating more and more funds to enhance their marketing communication towards potential students and other stakeholders as well as the development of their brands. This has been proven to be highly effective, because their universities' brands have been recognized as a strongly significant factor in employing the most successful graduates (Qian, 2009; Chapleo, 2010; Florea, 2011).

1.1. Higher education institution's brand personality

Brand personality represents a collection of human characteristics associated with a brand. Brands are mostly inanimate; however, consumers often perceive them as having human personality characteristics (Aaker, 1997). Brand identity functions relate to foreseeing brand preferences and uses, understanding brand loyalty, assigning personal meaning to the brand, enabling self-expression and facilitating brand positioning and differentiation (Sirgy, 1982; Keller, 1993; Aaker, Fournier, 1995; Plummer, 2000).

It is important to differentiate the meanings of the concepts of brand identity, brand image and brand personality in the process of brand management. Brand identity is considered as a method by which a company tries to position itself or its product, while brand image is the perception of the public about the company and its products, i.e. their position in the mind of the consumers (Kotler, Keller, 2007). On the other hand, brand personality represents the emotional component of the brand, conditioned by physical characteristics of the brand, values for the consumer, price, the image of typical consumers (Aaker, Biel, 1993; Plummer, 2000). It is the consumer's subjective image of the personality traits of a brand (Huang, 2009; Starčević, 2013). In this way consumers relate to the brand more easily in building a more long-term rapport with the company (Upshaw, 1995). In other words, brand personality is clearer than brand positioning, more animate than the physical characteristics of the product and more comprehensive than the brand name itself. Likewise, it is significant because it helps to differentiate the brand in relation to the competition, influences brand uniqueness and subsequently the increase in its market value (Stein, 2004).

Finally, brand personality as a constituent part of a company's identity plays a significant role in expressing a personal image of the consumers, by which they represent their social status (Aaker, 1996; Achouri, Bouslama, 2010). Therefore, the development of an appropriate brand personality potentially creates long-term rapport with consumers that leads to stronger and more positive attitudes and preferences toward a specific brand, encourages purchasing, creates a base of loyal customers and, finally, increases the brand's market value (Huang, 2009). Accordingly, brand personality of a private higher education institution can represent a strong basis for gaining a competitive edge on the higher education market (Opoku, 2005; Rutter, Lettice, Nadeau, 2017).

1.2. Marketing communication in the function of developing brand personality of a higher education institution

A brand is represented by a collection of perceptions positioned in the mind of its consumers that are created by marketing communication. Therefore, the objective of a company is that the image of the brand be perceived as similar as possible to its identity (Kovačević, 2005).

Aaker (1997) states that brand personality can be shaped and changed by any direct or indirect contact between the consumer and a brand. Shaping brand personality in a direct way means transferring personality traits of people connected with the brand to the brand itself, while an indirect method may result from the perception of the brand's physical characteristics (name, logo, advertising method, price). The practice of renowned brands is to use celebrities with the purpose of personifying the brand in order to position it and attract customers that identify themselves with the celebrities and subsequently the brand itself (L'*Oréal* Paris, Chanel). The possibility of such practice in the area of higher education was shown by Harvard University, emphasising the successes of its graduates (the presidents of the United States of America or Nobel Prize winners) (Ostojić, 2020).

In accordance, we can say that the development of brand personality is tightly connected with advertising in building a brand image. Namely, brand personality consists of a range of

personality traits that are unnoticeable under the influence of the same factors; therefore, advertising is considered as the most effective channel to initiate individual stages in the process of purchasing decision making (Brassington, Pettit, 2000). The most effective advertising strategy, considering the existence of a range of diverse advertising channels (including digital technology such as web pages and social networks), should follow the desired brand personality that makes it unique on the market. In doing so, it is important that the associations related to brand personality are represented in the language that is used by the consumers and directly impacts their thoughts (Hendon, Willliams, 1985). Therefore, private higher education institutions use various communication channels (advertising, open door days, social media, brochures, official web page) to transmit key information to potential students (Ivy, 2008; Zailskaite-Jakste, Kuvykaite, 2012; Gujić, Primorac, Marčeta, 2013; Ostojić, 2020).

All of the above-mentioned points that the development of brand personality, as well as other brand associations, is a long-term process demanding careful planning of a company's communication activities directed toward consumers. A strong brand personality, transmitted through diverse communication channels, facilitates the recognisability and interaction with consumers, which can be significant in the stage of valuing alternatives during the purchasing decision making process (Aaker, Fournier, Brasel, 2004; Rutter, Roper, Lettice, 2016). Within the context of higher education, potential students recognise a specific higher education institution on the higher education market, communicate with it during the enrolment process and then enrol in it.

2. Research

The purpose of this research was to test the impact of marketing communication strategy toward potential students on the development of brand personality of a private higher education institution. The primary research was conducted by surveying a sample of 201 students of undergraduate and graduate study programmes of Libertas International University during the academic summer-term semester of 2017. Within the framework of a broad survey, the questionnaire tested brand personality, using the J.L. Aaker scale (1997) comprising 29 attributes adjusted to the needs of this research, as well as the effect of promotional activities and external identity elements on creating a positive image of a private education institution. The questions were aimed at determining attitudes and opinions of the respondents in the form of statement evaluation via Likert 5-point scale (1 – I strongly disagree; 5 – I strongly agree). The second part of research was of secondary nature, whereby data were collected by researching bibliographic databases of scientific and professional literature in the area, with the purpose of comparative analysis of the obtained research results. Table 1 shows the socio-demographic characteristics of students that participated in primary research.

Table 1: Socio-demographic characteristics of the sample (N=201)

		N	%
SEX	Male	87	43
	Female	114	57
AGE	18-25	159	79
	26-32	31	15
	33 and over	11	6
STUDY LEVEL	Undergraduate	151	75
	Graduate	50	25

Source: Ostojić (2020)

3. Results and discussion

The aim of this research was to examine which personality traits students relate the private university to. The research was conducted through a modified brand personality scale (Aaker, 1997), which is considered the most stable and most frequently applied measure of brand personality (Eisend, Stokburger-Sauer, 2013). The students attributed to Libertas International University the highest average values of personality traits: *business-like* (M=4.31), *successful* (M=4.28), *self-confident* (M=4.25), *up-to-date* (M=4.20), *friendly* (M=4.19), *safe* (M=4.17) and *respectful* (M=4.10). The lowest mean values were given to traits *rigid* (M=2.49) and *inaccessible* (M=2.11). Similar conclusions can be made on the basis of calculated asymmetry coefficients, and therefore for the trait business-like $\alpha = -1.47$ (higher values prevail), and for inaccessible $\alpha = 0.81$ (lower values prevail) (Table 2). Results obtained in this manner are in accordance with earlier researches, which indicate the importance of brand personification as one of the essential dimensions present in users' conscience, or, in other words, equalizing higher education institutions to personality traits (Sung,Yang, 2008; Starčević, 2013; Rutter, Lettice, Nadeau, 2017).

Table 2: Descriptive statistics of brand personality traits (N=201)

Trait	M	Min	Max	SD	α
honest	3.71	1	5	0.957	-0.74
respectful	4.1	1	5	0.827	-0.95
realistic	3.93	1	5	0.94	-0.70
healthy	3.96	1	5	0.847	-0.72
original	4.00	1	5	0.921	-0.68
cheerful	4.00	1	5	0.754	-0.52
sentimental	3.37	1	5	1.061	-0.40
friendly	4.19	2	5	0.818	-0.71
caring	3.81	1	5	0.954	-0.42
exciting	3.77	1	5	0.931	-0.39
cool	3.75	1	5	1.065	-0.68
youthful	4.03	1	5	1.004	-1.04
unique	3.86	1	5	1.086	-0.78
independent	4.02	1	5	0.924	-0.82
imaginative	3.69	1	5	0.982	-0.31
trendy	4.00	1	5	0.905	-0.80
up-to-date	4.20	1	5	0.862	-1.12
reliable	4.08	1	5	0.893	-0.85
safe	4.17	1	5	0.881	-0.93
intelligent	4.09	1	5	0.959	-1.09
business-like	4.31	1	5	0.898	-1.47
successful	4.28	1	5	0.821	-1.01
leader	4.04	1	5	0.942	-0.79
self-confident	4.25	1	5	0.877	-1.19
glamorous	3.61	1	5	1.117	-0.49
charming	3.67	1	5	1.024	-0.47

Trait	M	Min	Max	SD	α
athletic	3.19	1	5	1.202	-0.28
rigid	2.49	1	5	1.082	0.26
inaccessible	2.11	1	5	1.129	0.81

Source: Ostojić (2020)

Furthermore, the aim was to examine the role that marketing communication strategy plays in relation to future students in the development of brand personality of a private higher education institution. Table 3 shows descriptive indicators of four observed variables which refer to brand personality and questions related to promotional activities and external identity elements of the private higher education institution Libertas International University (Questions: To which extent do advertising and promotional materials contribute to creating the positive image of Libertas?; The name of Libertas is catchy.; The logo of Libertas is recognizable.) Negative asymmetry coefficient shows that the afore mentioned variables were given higher grades by the students (points 4 and 5 on Likert 5-point scale).

Table 3: Descriptive indicators of four observed variables

Variable	N	MIN	MAX	M	SD	α
Brand personality of Libertas International University	201	1.31	5	3.92	0.67	-0.71
To which extent do advertising and promotional materials contribute to creating the positive image of Libertas?	201	1.00	5	3.83	1.03	-0.70
The name of Libertas is catchy.	201	1.00	5	4.60	0.65	-1.80
The logo of Libertas is recognizable.	201	1.00	5	4.08	0.97	-0.93

Source: author

Further on, the study examined the link between the personality of a private higher education institution and their marketing communication toward their potential students, using Pearson's correlation coefficient.

Table 4: Display of correlation between the overall research results related to the personality of a higher education institution and their marketing communication strategy (Pearson's correlation coefficient)

	To which extent do advertising and promotional materials contribute to the positive image of Libertas?	The name of Libertas is catchy.	The logo of Libertas is recognizable.
Brand personality of Libertas International University (overall results)	**0.39****	**0.28****	**0.37****

**$p < 0.01$
Source: author

Table 4 shows that the correlation between the overall research results related to brand personality and issues of their promotional activities and recognizability of external identity elements of the higher education institution Libertas International University are positive and statistically significant (p<0.01). The obtained results are also confirmed by other authors' studies (Aker, Biel, 1993; Rajagopal, 2004; Stein, 2004) who claim that advertising is the most efficient communication channel in brand identity creation, if we talk about affecting consumers' senses, whereby they come in contact, (even though they are often completely unaware of it) with different advertisement elements (celebrities, slogans, name, brochures, logos). Accordingly, it has been proven that communication activities need to be pointed at consumers, so that they perceive the brand as being confident and competent, which is extremely important in the field of higher education (Fournier, 1998; Beverland, 2009; Eggers et al., 2013). On the other hand, the authors Parameswaran and Glowacka (1995) believe that even the name of a higher education institution represents an important element of the brand, and should, consequently, represent the unique personality of the institution. Having established the correlation, simple linear regressions, as well as multiple linear regressions have been developed, as follows.

Simple linear regression, which describes the correlation between the brand personality of Libertas International University and their promotional activities, is statistically significant (p<0.01). The observed independent variable (The question: To which extent do advertising and promotional materials contribute to the positive image of Libertas?) statistically significantly affects the variance of the dependent variable of the brand personality of Libertas International University. In other words, 14.97% of the variance of the dependent variable is explained through the independent variable. The linear regression equation is: $Y = 2.95 + 0.25X$. Further on, the regression model which describes the correlation between the brand personality and catchiness of the name Libertas is statistically significant (p<0.01). The observed independent variable (The question: The name of Libertas is catchy.) statistically significantly affects the variance of the dependent variable of the brand personality of Libertas International University. Therefore, 8.08% of the variance of the dependent variable is explained through the independent variable. The linear regression equation is: $Y = 2.27 + 0.29X$. The regression model which describes the correlation between the brand personality of Libertas International University and the recognizability of their logo is statistically significant (p<0.01). The observed independent variable (The question: The logo of Libertas is recognizable.) statistically significantly affects the variance of the dependent variable of the brand personality of the private higher education institution. Therefore, 13.44% of the variance of the dependent variable is explained through the independent variable. The linear regression equation is: $Y = 2.88 + 0.25X$.

Moreover, multiple linear regression is statistically significant (p<0.01). The observed independent variables (Questions: To which extent do advertising and promotional materials contribute to the positive image of Libertas?; The name of Libertas is catchy.; The logo of Libertas is recognizable.) statistically significantly affect the variance of the dependent variable of the brand personality of Libertas International University. This means that 23.61% of the variance of the dependent variable is explained through the independent variable. Respectively, statistical significance of the independent variables related to the questions: To which extent do advertising and promotional materials contribute to the positive image of Libertas?; and The logo of Libertas is recognizable is lower than 0.01, and the independent variables related to the question: The name of Libertas is catchy is lower than 0.05. The multiple linear regression equation is: $Y = 1.83 + 0.19X1 + 0.16X2 + 0.15X3$.

In conclusion, marketing communication plays a vital role in the creation of brand personality and higher education institution image. It has been shown that advertising is an efficient communication channel which associates a private higher education institution to particular customer profiles, who attach personality traits to it. In this manner, every advertising element may make a contribution to the creation and preservation of brand personality of a private higher education institution. These elements incorporate verbal ones (text, tone), non-verbal ones (illustrations, press, colours, design, music, graphics quality) and advertising media (Batra, Lehmann, Singh, 1993).

4. Conclusion

The research showed that a marketing communication strategy can positively affect the desired development of brand personality, significant for building an image of a higher education institution. It is important to emphasise that a brand personality is an emotional component of a brand that helps to create strong brand associations in the minds of users. Accordingly, the students identify the personality of Libertas International University with personality traits such as business-like, confident, up-to-date, friendly, safe and respectful. Results obtained in this way can certainly serve other higher education institutions as a means to better understand brand personality in communicating their advantages to potential students. A limitation in this research may be the quality of the sample questioned by the survey, which depends on the level of their motivation in providing sincere responses. Therefore, it is possible to conduct focus group methods of projective techniques of students and other stakeholders in the higher education market in researching brand personality. The main recommendation for future research is to test the identification of personality traits of students with the purpose of determining the level of coincidence between their personality and the personality of the higher education institution aimed at predicting and understanding potential student behaviour. It is also possible to conduct research into the extent to which specific elements of advertising contribute to the creation or strengthening of a specific brand personality trait of the higher education institution.

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DEVELOPING DEMOCRACY WITH POLITICAL MARKETING – THE ROLE OF PERCEIVED POLITICAL KNOWLEDGE

ABSTRACT

Citizens' political participation represents one of the main preconditions for democracy development. Many democratic countries are facing with the decrease of political participation on different levels: electoral, conventional, and non-conventional. Political knowledge is proven to have a crucial role in developing political participation. However, in this research, the emphasis is on perceived political knowledge and its effects on different levels of political participation.
This paper aims to investigate the role of perceived political knowledge in the intention to engage in different levels of political participation and to establish the role of political marketing in increasing the levels of political knowledge. Even though political marketing is mostly used by politicians to attract voters, it can also be used as a tool for developing political participation, which can provide various benefits for political parties or candidates. The aim of this paper is also to investigate potential differences in the level of perceived political knowledge in regards to gender, age, level of education, and income, which can be a valuable input in political marketing segmentation. The research was conducted in five counties from Eastern Croatia in 2017 using a highly structured questionnaire. For the purposes of obtaining survey results, univariate (frequencies and arithmetic mean), bivariate (ANOVA and t-test) and multivariate (correlation, linear regression) statistical data analysis was performed with the Statistical Package for Social Sciences (SPSS) 21.0.
Results have shown statistically significant influence of perceived political knowledge on different levels of political participation and proven that higher levels of perceived political knowledge are expressed by men, older people, people with higher income, and people with a higher level of education. The implications of how to use political marketing to increase levels of political knowledge are provided.

Key words: political marketing, political participation, perceived political knowledge.

1. Introduction

In recent decades, academic interest in political participation has been increasing, both in the old and relatively new democratic systems. The increase of interest in political participation is caused by a declining level of civic involvement, lower turnout rates, declining confidence in systems and institutions, and increasing scepticism and cynicism towards politics (Ekman and Amnå, 2012). The decrease in political participation (electoral, conventional, and non-conventional) can be a serious problem for political and economic development of a country.

Political marketing, though partially criticized, is gaining greater importance in politics. It is mostly used by political parties and candidates to win voters, but it is rarely used to increase political participation. Just like profit marketing implies knowing the consumers (their needs and desires in order to satisfy it), political marketing implies knowing the voters (their needs and desires) and their behaviour in order to influence them in the desired direction. Previous sociological research has identified various influencing factors on political participation, but there is a largely unexplored space of political participation in the context of political marketing itself, especially in younger democracies and countries in transition. Political marketing can have a positive effect in order to increase conventional political participation, but it is first and foremost necessary to know its key influencing factors in order to direct specific political marketing activities.

Political knowledge was identified as one of the important predictors of political participation. Political knowledge can be measured as a factual knowledge and perceived knowledge. Factual political knowledge is sometimes hard to measure, and for that reason, researchers often use perceived political knowledge, i.e., how much a person thinks he/she knows about politics. This paper aims to investigate the role of perceived political knowledge in the intention to engage in different levels of political participation (conventional and non-conventional) and to establish the role of political marketing in increasing the levels of political knowledge. Also, this paper aims to investigate potential differences in the level of perceived political knowledge in regards to different socio-demographic characteristics: gender, age, level of education, and income, which can be a valuable input in political marketing segmentation.

2. Theoretical framework

Delli Carpini and Keeter (1996, 10) define political knowledge as "the range of factual information about politics that is stored in long-term memory." Johann (2012) explains that the range of factual information includes knowledge of the "rules of the game" and knowledge of major political actors. Knowledge of the "rules of the game" includes information about how the political system is structured and how it functions, while knowledge of major political actors includes information about political parties, their candidates, public officials, and their affairs. Different levels of knowledge about political actors can be a source of inequality in the level of political participation in the act of voting itself. Citizens with a low level of knowledge of the parties and candidates competing in elections and their positions may find it difficult to spot differences between those parties and candidates (Popkin and Dimock, 1999). If citizens know little or nothing about political actors and their position in relation to different political issues, they cannot assess whether all parties and candidates are equal and they do not have the information necessary to differentiate them (Power Inquiry, 2006, cited in Johann, 2012, 45). In other words, they cannot make a rational decision. In contrast, citizens who are fully informed about political actors and their views have a lower "cost" of decision making and

should perceive the greater utility of their vote (Downs, 1957; Price and Zaller, 1993; Lau and Redlawsk, 2001).

The cause of inequality in political participation may also be due to inequality in knowledge of the rules of the game. Factual knowledge of the rules of the game can be called the "virtual precondition for political action" necessary to get the idea of "the immense complexity of modern bureaucratic government" (Weissberg, 1974, 71-72, cited in Johann, 2012). If citizens do not understand the functioning of both the political system and their connection with it, they will be reluctant to engage in politics (Milbrath, 1965: 65). A low basic understanding of the rules of the game in the political system leaves citizens with unclear opportunities for participation and unaware of the importance of participating in different levels of political activities (Power Inquiry, 2006, 87). Thus, knowing the rules of the game makes citizens aware of the possibilities of participation and thus promotes participation in less conventional ways. For example, if one wants to express dissatisfaction with a government decision, one should know what options are available. In short, the effect of different dimensions of knowledge can vary. Johann (2012) proves that knowledge about political actors influences political participation in terms of voting, while knowledge of the rules of the game influences the higher and more demanding dimensions of political participation.

Many studies have focused on the link between political knowledge and political participation. A significant number of political science papers have demonstrated a positive association between political knowledge and political participation (Klingemann, 1979; Neuman, 1986; Junn, 1991; Rosenstone and Hansen, 1993; Verba et al., 1995; Delli Carpini and Keeter, 1996; Burns, et al., 2001; Galston, 2001; Jung et al., 2011). Ondercin and Jones-White (2011) considered knowledge to be a resource that is used by an individual to make a political decision. Political knowledge reduces the costs of political participation in two different, but not necessarily unrelated ways. First, in order to participate in politics, individuals need political information on which to base their various participatory decisions and actions (Verba et al., 1995). Second, knowledge may also reflect a psychological orientation when it comes to politics (Kenski and Jamieson, 2000; Frazer and Macdonald, 2003; Mondak and Anderson, 2004; Lizotee and Sidman, 2009). If an individual does not have a positive psychological orientation toward politics (leading to a decrease in his/her political knowledge), that individual is less likely to participate in politics.

Empirical research has shown that political knowledge contributes to more stable and consistent political attitudes, helps citizens pursue their interests and make decisions that are consistent with their attitudes and preferences, fosters support for democratic values, facilitates trust in the political system and motivates political participation (Galston, 2001). Burton and Netemeyer (1992) associated low levels of interest in politics with low levels of political knowledge. O'Cass (2002) states that interest in politics has a potential influence on voters' perceptions of how much they think they know about the elections, political parties, and politicians. Knowledge is still considered an essential element in decision-making in elections (O'Cass, 2002; O'Cass and Pecotich, 2005), while perceived knowledge of a particular political party may depend on which party the voter previously voted for (Winchester et al., 2014).

Delli Carpini and Keeter (1996) noted significant differences in the level of political knowledge across subgroups. Not only education, but race, gender, and self-assessed level of interest in politics were significantly associated with all dimensions of political knowledge. Higher levels of political knowledge are expressed by men, whites, citizens with higher levels of education and higher incomes, and also higher levels of interest in politics. Many studies have proven that

women possess a lower level of knowledge about politics than men (Delli Carpini and Keeter, 1996, 2000; Kenski and Jamieson, 2000; Burns, et al., 2001; Frazer and Macdonald, 2003; Mondak and Anderson, 2004; Lizotee and Sidman, 2009). The cited literature assumes that differences in political participation between men and women, together with other factors, are simply a function of the gender gap in policy knowledge. However, Ondercin and Jones-White (2011) argue that this correlation is significantly more complex. These authors argue that not only is the likelihood of participation influenced by the level of knowledge, but knowledge affects the likelihood of participation differently for women and differently for men. Their research has shown that, before engaging in political activities, women will require higher levels of political knowledge than men. Consequently, they have shown that political knowledge significantly affects political participation in women than in men.

Political knowledge can be acquired through formal education (Delli Carpini and Keeter, 1996; Nie et al., 1976), political discussions (Delli Carpini and Keeter, 1996), and through traditional media (Chaffee et al., 1994; Scheufele and Nisbet, 2002). Political knowledge has been tested in many studies as a consequence of media influence and political talk. Eveland et al. (2004: 425) state: "In practice, policy knowledge depends on communication, and in particular mass communication through the media." A large number of empirical researches provides significant evidence of a positive correlation between the level of political knowledge and media use (Chaffee and Dr., 1994; Weaver and Drew, 1993; Eveland and Scheufele, 2000).

Delli Carpini (2005), in the classification of political knowledge (together with knowledge of political institutions and processes and knowledge of political actors) also distinguishes knowledge of independent political issues and events (for example, budget cuts, unemployment rates, marijuana legalization and the like). Although the aforementioned conceptualization of political knowledge focuses on a person's ability to recall facts about political institutions, events, and actors, it does not encompass a structured form of higher-order knowledge. The individual may know parts of isolated political facts, but they may not always be fully organized in his memory (Neuman, 1981; Graber, 2001; Eveland et al., 2004). Factual information, such as the unemployment rate, includes the question "what" but does not answer the question "why" the unemployment rate is high and "how" to boost the economy or create employment opportunities. In a sense, factual information is seen as an entry point to build more structured, deeper forms of political knowledge. Neuman (1981) accordingly divides political thinking into two forms: differentiation and integration. Differentiation involves finding factual information, and integration refers to an individual's ability to relate and organize pieces of factual information into more complex concepts.

Political knowledge is most often the result of education (formal and non-formal), and the measurement of political knowledge is specific to a particular country due to the different systematic and political structure. Bagić and Gvozdanović (2015) conducted a study of the political literacy of high school students in the Republic of Croatia. The results showed that the research participants are partly familiar with basic political concepts, with more than four-fifths knowing what the three-tier government entails, and less than two-thirds being familiar with the notion of dictatorship. The concept of civil society organizations is familiar to 62% of participants; however, only 20% of participants have specific knowledge of which organizations belong to the civil society sphere. Half of the participants have basic knowledge of political opposition, democratic order and the profile of democratic parties. Just under half know the notion of legitimacy, and two-fifths have an important characteristic of liberal parties advocating minimal government intervention in economic activity. The majority of participants, about 60% of them, answered correctly the question of who is the commander-in-

chief of the armed forces, and the same percentage of them know the definition of the constitution and the type of political system of the state. On the other hand, just over half of participants did not know how ministers are elected in the government, and 81% of them did not know which actors can change the Constitution of the Republic of Croatia. Concerning other dimensions of political knowledge, political awareness of participants was the weakest point. Namely, just over 50% of the participants answered exactly one question out of five about Croatia's relation to NATO. About two-fifths of participants knew when multi-party elections were held in the Republic of Croatia and about the same percentage knew which three European countries were also EU members. Just over a quarter knew the name of the current prime minister, and only one fifth knew the coalition of parties in power (Bagić and Gvozdanović, 2015, 8-10). The results demonstrate that the respondents showed the highest level of knowledge on basic political concepts, then on the constitutional-political structure, while the level of information on political events is extremely low.

Another form of political knowledge is subjective or perceived political knowledge. It refers to a person's perception of how much he/she knows about politics (Brucks, 1985), while factual political knowledge, as defined previously, refers to objective facts that are actually stored in memory. A related concept that includes both subjective and objective knowledge is the standardization of knowledge, which can be defined as "an agreement between objective and subjective assessments of information validity" (Alba and Hutchinson, 2000: 123). Sometimes the notion of perceived political knowledge is identified with perceived internal self-efficacy (Bäck and Kestilä, 2009), but it is necessary to distinguish the two, since perceived internal self-efficacy refers to the perception of one's own ability to influence the political system, while subjective knowledge relates only to the perception of knowing politics and the political system.

Given the conclusion that deeper forms of political knowledge and/or integrated political knowledge are more difficult to measure because of the lack of valid and systematically adapted measurement scales, and also because it is possible to assume that an individual's behavior will be more influenced by perceived than actual level of knowledge, this study used subjective, i.e. perceived political knowledge.

3. Research methodology

3.1. Sample

The study was conducted on a convenient sample in the area of Eastern Croatia, i.e. five Slavonian counties: Brodsko – posavska, Osječko – baranjska, Požeško – slavonska, Virovitičko – podravska and Vukovarsko – srijemska. The survey is spatially limited due to the limited financial resources of the research, and the sample is suitable for obtaining indicative results and reaching general conclusions on the level of political knowledge and its impacts on the political participation of voters in the Republic of Croatia. The basic set for the selection of respondents consisted of all persons over 18 years of age, i.e., all persons with legal voting rights. The interviewers were instructed to examine one female and one male from each age group (18-31 years, 32-45 years, 46-59 years, and 60+) to ensure equal representation of all ages and gender groups. The survey was conducted over the period from 16 May, 2017 to 12 June, 2017, during which a total of 681 questionnaire responses were collected. After all questionnaires were returned, a test control was performed on a 20% sample of the questionnaire. The control was performed on the basis of the records in which the interviewers recorded the contact details of the respondents, which were physically separated from the questionnaire in order to ensure the anonymity of the respondents. The control subjects were

asked four control questions that they could only answer if they were indeed involved in the research. The control showed that all interviewers performed their tasks correctly. After the missing data were checked, 19 questionnaires were eliminated from the survey, and a total of 662 questionnaires were analyzed. For the purpose of obtaining the survey results, univariate (frequencies and arithmetic mean), bivariate (ANOVA and t-test) and multivariate (correlation analysis, regression analysis) statistical data analyses were performed with Statistical Package for Social Sciences (SPSS) 21.0 statistical program.

3.2. Variables and measurement

As a research instrument, a structured questionnaire was formulated based on previous research in this area. A total of 3 scales were used in the study. Perceived political knowledge scale was adapted and modified from Winchester et al. (2016), while intentions to participate in conventional and unconventional political activities have been independently developed based on the theoretical typology of authors Ekman and Amnå (2012). All scales were measured on a Likert scale from 1 to 5, where a value of 1 indicated strong disagreement with the stated statement, and a value of 5 marked a strong agreement with the stated statement.

Perceived political knowledge construct consisted of 7 statements:
1. I know a lot about politics; 2. Compared to most people, I know more about politics; 3. I am knowledgeable about politics; 4. I classify myself as an expert on politics; 5. I try to keep up-to-date about politics in general; 6. In general, I am the first in my circle of friends to know what's going on in politics. 7. I can justify my voting decision to others with confidence.

Political participation was divided into conventional and unconventional political participation. According to Barnes et al., (1979), there are four different level of political participation: electoral political participation (only voting), conventional political participation (activities related to a political party, for example, becoming an active member of a political party, a donation to a political party, etc.), unconventional political participation (political activities not directly related to a political party, for example, signing petitions, participating in demonstrations, etc.) and non-normative political participation (violent activities such as violent demonstrations, etc.). The latter was not considered in this research because these activities are legally forbidden. Electoral participation also was not included in this research because electoral political participation is influenced by various and often unpredictable factors. It is very specific in that it is legally different in different countries. The election is legally binding in some countries, and influencing factors can hardly be measured in this case. Also, the very act of going to the polls is very simple but also time-limited. Furthermore, since higher forms of political participation (conventional and unconventional political participation) often imply lower forms, it can be assumed that an increase in conventional political participation will also lead to an increase in electoral participation (if individuals invest their time and effort in engaging in political activities and expect a certain result, it is clear that they will also take the act of voting themselves in order to ultimately achieve that result).

The conventional political participation intention construct consisted of 16 statements: *1. I intend to start and conduct political discussions in my area; 2. I intend to influence my loved ones when making an election decision; 3. I intend to influence other people when making an election decision; 4. I intend to attend political rallies; 5. I intend to wear badges and tags to express my support for a political party or politician; 6. I intend to express my political views in the environment; 7. I intend to express my political views on the Internet; 8. I intend to pay a membership fee to a political party that I support; 9. I intend to donate funds to a political*

party that I support; 10. I intend to attend meetings of the political party I support; 11. I intend to be an active member of a political party; 12. I intend to attend meetings where key decisions of the political party I support are made; 13. I intend to help the political party/candidate I support in raising money; 14. I intend to volunteer for a political party that I support; 15. I intend to take an active role in the political campaign; 16. I intend to run in the election

Unconventional political participation intention construct consisted of 9 statements: *1. I intend to support civic initiatives; 2. I intend to participate in legal protests; 3. I intend to go to referendums; 4. I intend to sign petitions; 5. I intend to contact politicians in power if any problems arise; 6. I intend to boycott certain products for political reasons; 7. I intend to boycott certain products for ethical reasons; 8. I plan to volunteer for a political organization (other than a party); 9. I intend to volunteer for a non-political organization (a charity, an environmental association...).*

As it is shown in Table 1, all proposed constructs have adequate construct reliability (Cronbach's Alpha coefficients above 0.7).

Table 1: Construct reliability

Measurement scale	Number of items	Mean	Cronbach's Alpha
Perceived political knowledge (PPK)	7	2,473	0,889
Conventional political participation intention (CPPI)	16	1,499	0,926
Unconventional political participation intention (UPPI)	9	2,490	0,816

Source: Authors' work

4. Research results

4.1. Sample description

The socio-demographic characteristics of the sample consisting of a total of 662 respondents are shown in Table 2.

Table 2: Socio-demographic characteristics of the sample

		n	%
Gender		**658**	**100**
	Men	328	49,7
	Women	331	50,3
Age		**657**	**100**
	18-31	170	25,9
	32-45	169	25,7
	46-59	163	24,8
	60+	155	23,6
Level of education		**658**	**100**
	Elementary school	62	9,4
	High school	372	56,5
	Higher education	224	17,7
Employment status		**662**	**100**

		n	%
	Student	110	16,6
	Unemployed	64	9,7
	Employed	320	48,3
	Retired	168	25,4
Income		**650**	**100**
	Up to 400 €	67	10,3
	401 – 800 €	192	29,5
	801 – 1200 €	173	26,6
	1201 – 1600 €	129	19,8
	1601 – 2000 €	51	7,8
	More than 2000 €	38	5,8

Source: Authors' work

4.2. Differences in levels of perceived political knowledge

Gender

In accordance with previous research, this study tried to determine whether there is a significant difference in the level of perceived political knowledge between men and women.

Table 3: An independent-samples t-test results

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Perceived political knowledge	Equal variances assumed	4,987	0,026	5,698	657	0,000	0,43490	0,07632
	Equal variances not assumed			5,695	645,433	0,000	0,4390	0,07637

Source: Authors' work

The results of the independent-samples t-test depicted in Table 3 show that there is a statistically significant difference in the level of perceived political knowledge between men and women. Levene's test for equality of variances was significant (p=0,026), which means that in this case, equal variances are not assumed, and the results of the second row of Table 3 are being interpreted. The test showed there was a significant difference (p=0.000) in mean scores for men (M=2,6951; SD=1,03927) and women (M=2,2602; SD=0,91671) where men showed a significantly higher level of political knowledge than women.

Age

An analysis of the comparison of the level of perceived political knowledge with respect to age was performed by ANOVA test. The primary purpose of the ANOVA test is to show whether intra-group variability (different age groups) is greater than intra-group variability. Table 4 shows the descriptive statistics values for each age group, and the results of the ANOVA test with the dependent variable perceived political knowledge are shown in Table 5.

Table 4: Descriptive statistics values for each age group

Age	N	Mean	Standard deviation	Standard error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
18 - 31	170	2,4261	1,04673	,08028	2,2676	2,5845
32 - 45	169	2,3153	,89931	,06918	2,1787	2,4519
46 - 59	163	2,5328	,97309	,07622	2,3823	2,6833
60+	155	2,6341	1,07029	,08597	2,4643	2,8039
Total	657	2,4731	1,00306	,03913	2,3963	2,5500

Source: Authors' work

Table 5: ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	9,183	3	3,061	3,071	,027
Within Groups	650,844	653	,997		
Total	660,027	656			

Source: Authors' work

Table 5 shows that the value of the F-ratio is statistically significant (p = 0,027), and therefore, it can be concluded that there is a significant difference between the individual groups. The Bonferroni test was performed for potential differences. The results of the Bonferroni test showed that there is a statistically significant difference between two age groups: age group 32 to 45 and age group 60+. Bonferroni test showed that respondents who are 60+ express a much higher level of perceived political knowledge than respondents who are 32 to 45 years old. As is seen in Table 4, the latter age group shows the least level of perceived political knowledge (M=2,3153).

Income

An analysis of the comparison of the level of perceived political knowledge with respect to income was also performed by the ANOVA test. Table 6 shows the descriptive statistics values for each income group, and the results of the ANOVA test with the dependent variable perceived political knowledge are shown in Table 7.

Table 6: Descriptive statistics values for each income group

Income	N	Mean	Standard deviation	Standard error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
Up to 400 €	67	2,4861	1,06588	,13022	2,2262	2,7461
401 – 800 €	192	2,3549	,95492	,06892	2,2189	2,4908
801 – 1200 €	173	2,4988	1,05256	,08002	2,3408	2,6567
1201 – 1600 €	129	2,4252	,98027	,08631	2,2545	2,5960
1601 – 2000 €	51	2,6022	,88954	,12456	2,3521	2,8524
More than 2000 €	38	3,0714	,97500	,15817	2,7510	3,3919
Total	650	2,4820	1,00457	,03940	2,4046	2,5593

Source: Authors' work

Table 7: ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	17,508	5	3,502	3,538	,004
Within Groups	637,440	644	,990		
Total	654,948	649			

Source: Authors' work

Table 7 shows that the value of the F-ratio is statistically significant (p = 0,004), and therefore, it can be concluded that there is a significant difference between the individual groups. The results of the Bonferroni test showed that there is a statistically significant difference between the group with the income that is higher than 2000 euros and all other income groups. As is seen in Table 6, this income group shows significantly higher level of perceived political knowledge than other income groups (M=3,0714).

Education
An analysis of the comparison of the level of perceived political knowledge with respect to education was also performed by the ANOVA test. Table 8 shows the descriptive statistics values for each education group, and the results of the ANOVA test with the dependent variable perceived political knowledge are shown in table 9.

Table 8: Descriptive statistics values for each education group

Education	N	Mean	Standard deviation	Standard error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
Elemantary school	62	2,3018	1,04342	,13251	2,0369	2,5668
High school	372	2,3836	,99231	,05145	2,2824	2,4848
Higher education	224	2,6626	,98704	,06595	2,5327	2,7926
Total	658	2,4709	1,00367	,03913	2,3941	2,5477

Source: Authors' work

Table 9: ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	12,840	2	6,420	6,480	,002
Within Groups	648,987	655	,991		
Total	661,827	657			

Source: Authors' work

Table 9 shows that the value of the F-ratio is statistically significant (p = 0,002), and therefore, it can be concluded that there is a significant difference between the individual groups. The results of the Bonferroni test showed that there is a statistically significant difference between the group of respondents who are highly educated and respondents who have finished elementary and high school. The respondents who are highly educated show statistically higher levels of perceived political knowledge (M=2,6626) than respondents with elementary school (M=2,30108) or high school (M=2,3836).

4.3. The influence of perceived political knowledge on conventional political participation intention

One of the aims of the paper was to determine does perceived political knowledge influence conventional political participation intention. Linear regression was performed to test the potential influence. Results of the test are depicted in Tables 10 and 11.

Table 10: Model summary

Model	R	r^2	Adjusted r^2	Std. Error of the estimate	Change Statistics				
					R square change	F change	Df1	Df2	Sig. F Change
1	0,489ª	0,240	0,238	0,59290	,240	207,883	1	660	,000

a. Predictors: (Constant), PPK
b. Dependent Variable: CPPI
Source: Authors' work

The proportion of explained variance, as measured by R-Squared for the regression, is 24%, as depicted in Table 10. This proportion is relatively high, given the fact that only one influential factor was included.
ANOVA results show that the model reaches statistical significance (Sig = 0,000).

Table 11: Regression coefficients

Model		Unstandardized coefficients		Standardized coefficients	t	Significance
		B	Std. Error	Beta		
1	(Constant)	,678	,061		11,054	,000
	PPK	,332	,023	,489	14,418	,000

Source: Authors' work

The results of linear regression analysis (Table 11) show that perceived political knowledge has a significant positive influence on conventional political participation intention (t=14,418; p=0,000; β=0,489).

4.4. The influence of perceived political knowledge on unconventional political participation intention

Besides conventional political participation intention, this paper also aimed to test does perceived political knowledge influence unconventional political participation intention. Linear regression was also performed to determine whether this influence exists. The results are shown in Tables 12 and 13.

Table 12: Model summary

Model	R	r^2	Adjusted r^2	Std. Error of the estimate	Change Statistics				
					R square change	F change	Df1	Df2	Sig. F Change
1	0,371ª	0,138	0,137	0,81473	,138	150,490	1	660	,000

a. Predictors: (Constant), PPK
b. Dependent Variable: UPPI
Source: Authors' work

The proportion of explained variance, as measured by R-Squared for the regression, is 13,8%, as depicted in Table 12. This is relatively less than in the case of conventional political participation intention, which is expected because unconventional political participation is influenced by different factors than conventional political participation intention.

ANOVA results show that the model reaches statistical significance (Sig = 0,000).

Table 13: Regression coefficients

Model		Unstandardized coefficients		Standardized coefficients	t	Significance
		B	Std. Error	Beta		
1	(Constant)	1,688	,084		20,010	,000
	PPK	,335	,032	,371	10,271	,000

Source: Authors' work

The results of linear regression analysis (Table 13) show that perceived political knowledge has a significant positive influence on unconventional political participation intention (t=10,271; p=0,000; β=0,371).

5. Conclusion

With the emergence of a marketing concept in politics, the electorate and their preferences come into focus. It is only on the basis of the wishes and needs of the voters that an appropriate political program or candidate is formulated (as in commercial marketing based on the wishes and needs of the consumer a particular product/service is produced). However, there is one important aspect of the political system that should not be overlooked. Political parties/candidates, in addition to the wishes of the electorate, must also take into account the social well-being of their political programs. Political parties/candidates who are driven by an improved conception of marketing, design their activities, not only on the basis of voters' wishes but also on the basis of social needs. Given that political participation is necessary for the functioning of any democratic society, encouraging and enhancing political participation can be considered as a social welfare. As one of the leading players in the political market, political parties play a key role in fostering political participation. By encouraging conventional political participation, in addition to their own benefits, political parties also contribute to social well-being.

Research results confirmed that higher levels of perceived political knowledge are expressed by men, older people, people with higher income and people with higher level of education which is in accordance to previous research (Delli Carpini and Keeter, 1996, 2000; Kenski and Jamieson, 2000; Burns et al., 2001; Frazer and Macdonald, 2003; Mondak and Anderson, 2004; Lizotee and Sidman, 2009). Also, research results have shown that perceived political knowledge strongly and positively influences conventional and non-conventional political participation intention. Given the results, it is necessary to positively influence the level of political knowledge (especially in case of groups that expressed significantly lower levels of perceived political knowledge: women, young people, people with lower income, and lower level of education). It is possible to use political marketing activities to act in this direction. Political parties can increase political knowledge using different activities: organizing educational activities for its members; organizing educational activities for citizens; lobbying for the inclusion of political education in primary education; educating voters about the political

system through media campaigns; educating voters about their program, goals, and activities through media campaigns; encouraging political debates (offline and online).

This research has its limitations. The first one is related to the convenient sample and spatial limitation, given the fact that it was conducted in only one Croatian region. Therefore, the descriptive results of this research should be carefully generalized to the entire population of the Republic of Croatia. In order to obtain a complete picture and identify possible regional differences, research should be carried out on the territory of the entire Republic of Croatia. Another limitation, which is also one of the contributions of the research, is the lack of previous research in this area on the territory of the Republic of Croatia, and there are no relevant references to compare the results of the conducted research.

Future research should be aimed at developing standardized measures for political knowledge combining factual political knowledge with perceived political knowledge. Also, future research should include other influential factors on different levels of political participation like political attitudes, political satisfaction, political cynicism, political efficacy, etc.

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A scientific paper

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LEGAL PERSPECTIVES ON POST-GDPR DEVELOPMENTS AMONG LAW STUDENTS AND INFORMATION SCIENCE STUDENTS AT UNIVERSITY OF OSIJEK

ABSTRACT

In May 2018, the General Data Protection Regulation (GDPR) changed the data protection of personal data by organizations and companies operating in the European Union and abroad. Namely, due to the very nature of modern technologies, data are not unavoidably bound by some state or borders of European Union. In information society exists the privacy oxymoron namely while people very much value their protection of personal data, they do not act in line with it, particularly when it concerns new technologies. Since more and more individuals especially students' population use applications on their mobile phones such as communication apps, social apps and fitness apps as well as wearables to measure their health, the aim of this paper is to explore the level of students' awareness and familiarity with the main GDPR terms and principles especially with the six fundamental GDPR principles: (1) lawfulness, fairness, and transparency, (2) purpose restriction (limitation), (3) data minimization, (4) data accuracy, (5) data storage limitation and (6) data security. This paper gives theoretical insights into the legal perspectives of post - GDPR developments and within the empirical part shows the results of the survey conducted among two students' populations – law students and information science students regarding their awareness and familiarity with the main GDPR terms and principles in context of use of modern technologies especially new health technologies which offer the great potential for growth and economic development.

Key words: *GDPR, privacy, survey, students.*

1. Introduction

In modern times, the easy accessibility of a range of information and personal data that are an integral part of someone's personality, certain human rights, such as the individual's right to privacy, are increasingly being challenged. The right to privacy is an absolute right which means that it operates *erga omnes*, but it also has its limitations which are conditioned by other people's rights and legal restrictions (Gavella, 2000). The development of modern information and communication technologies, the Internet, various information channels such as You Tube,

social networks such as Facebook and Instagram and the rapid development of online commerce is deeply affecting the privacy of individuals, but also gives rise to a whole number of problems related to securing personal data protection. For this reason, for years at the international and national level, attempts have been made to ensure the highest possible level of protection of these fundamental human rights, without at the same time minimizing other, sometimes diametrically opposed human rights such as the right to information and freedom of expression. The person's privacy can thus be compromised by unauthorized disclosure and the use of personal information by other entities such as private companies, and by the State itself, which has a full range of citizen data processed by different state bodies. (Klarić, 2016, 976).

The authors of this paper will analyse the impact of the provisions of Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (hereinafter: GDPR, General Data Protection Regulation)[1] on the protection of the right to privacy and personal data in the European Union and the level of knowledge of these provisions in the student population of the Faculty of Law in Osijek and the Faculty of Humanities and Social Sciences in Osijek. The aim of this paper was to explore among two students' populations – law students and information science students, their awareness and familiarity with the main GDPR terms and principles in context of use of modern technologies especially new health technologies which offer the great potential for growth and economic development.

In the introduction, the reasons and needs for personal data protection at international and national level are explained. Within the second section the terms of right to privacy and protection of personal data are described. Furthermore, comparative analyse of regulations at international and national level regarding right to privacy and protection of personal data is given in the second section. Within the third section GDPR - General Data Protection Regulation is defined and explained. In the fourth section the research results on post - GDPR developments among students at University of Osijek are presented. Within the fifth section main conclusions are summarized especially regarding the research results.

2. Right to privacy and protection of personal data

The right to privacy is the right of a person to lead his or her personal (private), family and home life separately and independently of others, without offending others' rights or legal restrictions and the exclusion of any unauthorized interference with other persons, the public or public authorities (Gavella, 2000, 211). The fundamental purpose of protecting personal information is to ensure the exercise of the right to privacy and other related rights. Namely, although privacy and personal information are not identical concepts, they can be analysed together since personal information constitutes a significant aspect of privacy (Kokott, Sobotta, 2013, 223). Thus, the European Convention for the Protection of Human Rights and Fundamental Freedoms (hereinafter: the European Convention)[2] in article 8 stipulates that everyone has the right to respect of his privacy and family life, but does not contain specific provisions on the protection of personal data that specifically relate to that right and as such falls within the jurisdiction of the European Court of Human Rights.

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1 Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC, Official Journal of the European Union, L 119, 4 May 2016, p. 1–88.
2 Thus, the European Convention for the Protection of Human Rights and Fundamental Freedoms, Official Gazette, International Treaties, no. 18/1997., 6/1999., 14/2002., 13/2003., 9/2005., 1/2006., 2/2010.

However, the case-law of this Court shows that, by applying Article 8 of the European Convention, this Court also respected the right to the protection of personal data (Fuster, 2014, ch. 4.3.). According to that Court, the protection of personal data is fundamental for the enjoyment of a person's right to respect for private and family life (*S. and Marper*, para. 41), and individuals may legitimately expect that their data should not be disclosed without their consent (*Flinkkilä and Others v. Finland,* para 75; *Saaristo and Others v. Finland,* para 61). Therefore, it could be indirectly concluded that the European Convention for the Protection of Human Rights in principle protects all fundamental human rights which include the individual's right to privacy, and the protection of personal data would, in a broad sense, undoubtedly be an integral part of the right to privacy.

In the Republic of Croatia, the personal rights of the individual are protected by the Constitution of the Republic of Croatia in Article 35, which reads as follows: *"Respect for and legal protection of each person's private and family life, dignity, and reputation shall be guaranteed.*" The issue of the processing of personal data has also been raised to a constitutional level. Thus, in the Constitution of the Republic of Croatia Article 37. states *"The safety and secrecy of personal data shall be guaranteed for everyone. Without consent from the person concerned, personal data may be collected, processed, and used only under the conditions specified by law. Protection of data and monitoring of the operations of information systems in the state shall be regulated by law. The use of personal data contrary to the express purpose of their collection shall be prohibited."*

In addition to the Constitution, there are several regulations that contain provisions that sanction the violation of the individual's personal rights. As defined in Article 19. of the Civil Obligations Act[3] personal rights in the Republic of Croatia include the right to life, physical and mental health, honor, reputation, dignity, privacy, name, freedom, etc. For violations of these rights committed by the media is most relevant Croatian Media Law.[4] As regards the protection of personal data, in the Republic of Croatia are in force the General Data Protection Regulation and the Act on Implementation of the General Data Protection Regulation.[5] This Act does not specifically define the term personal data, but in Article 3/1. states that terms within the meaning of this Act have the same meaning as those used in the General Data Protection Regulation (see *infra*). This Act is, as well as the General Regulation, in force since 25 May 2018.[6]

At EU level, the right to respect for privacy is protected as a general principle (*National Panasonic v Commission* par. 17.; *Commission v Germany*, para. 23.). Article 7 of the Charter of Fundamental Rights of the European Union (hereinafter: the Charter) provides that *"everyone has the right to respect for his or her private and family life, home and communications.*" However, in addition to protection of the right to respect for privacy and family life, another article of the Charter, Article 8, specifically addresses the fundamental right to the protection of personal data. Article 8 of the Charter not only distinguishes privacy from data protection, it also lays down few specific guarantees in paragraphs 2 and 3, and these are that *"such data*

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3 Civil Obligations Act, Official Gazette, no. 35/2005, 41/2008., 125/2011, 78/2015.
4 Media Law, Official Gazette, no.59/2004,84/2011, 81/2013.
5 Act on Implementation of the General Data Protection Regulation, Official Gazette, no. 42/2018.
6 Prior to that date, the definition of personal data in the Republic of Croatia was given in the Article 2. of Personal Data Protection Act pursuant to which *personal information is any information relating to an identified or identifiable natural person; identifiable person is a person whose identity can be ascertained directly or indirectly, especially on the basis of an identification number or one or more characteristics specific to his or her physical, psychological, mental, economic, cultural or social identity* (Personal Data Protection Act, Official Gazette, no. 103/2003., 118/2006, 41/2008, 130/2011, 105/2012.).

must be processed fairly for specified purposes and on the basis of the consent of the person concerned or some other legitimate basis laid down by law, and that everyone has the right of access to data which has been collected concerning him or her, and the right to have it rectified. Compliance with these rules shall be subject to control by an independent authority."

However, despite the clear distinction between the right to privacy and the right to protection of personal data in the Charter, the Court of Justice of the European Union in its previous case-law has not made this distinction, which is why it has been criticized in the literature (see: Docksey, 2015; Lynskey, 2014; Hustinx, 2013). For example, in *Schecke* and *Schwarz*, the Court simultaneously invoked both rights. Also, in *Digital Rights Ireland and Seitlinger*, in the light of the fundamental right to privacy, the Court emphasized the significant role of data protection (D*igital Rights Ireland and Seitlinger*, para. 48-53). Although in these decisions the Court referred in some paragraphs to Article 7 and Article 8 of the Charter in others, no clear boundary can be found in the approaches (see more Hijmans, 2016, 64). The absence of a clear demarcation line also confirms the case *Deutsche Telekom*, where the Court relied only on Article 8 of the Charter (*Deutsche Telekom* para. 49-54) and *Ryneš*, in which the Court relied only on Article 7 of the Charter (*Ryneš*, para. 28).

In addition to the Charter, we also find provisions on the protection of personal data in the European Union in Articles 6 and 39 of the Treaty on European Union and Article 16 of the Treaty on the Functioning of the European Union.[7] The most detailed regulation governing the protection of personal data in the European Union is the General Data Protection Regulation, which entered into force on 25 May 2016 and is applicable in the Republic of Croatia from 25 May 2018. Prior to the adoption of this Regulation, the basic regulation governing the protection of personal data in the European Union was the Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data.[8] In CJEU jurisprudence, in cases concerning the preliminary interpretation of the provisions of the aforementioned directive, we also do not find a clear line of demarcation between privacy and personal data. For example, in the *Nowak* case, on several occasions these two rights are brought into the relationship of dependency (*Nowak* par. 57.). Interestingly, in its analysis the Court also referred to the GDPR, even if at that time the Regulation was not yet applicable.

3. General Data Protection Regulation (GDPR)

General Data Protection Regulation came into force on 25 May 2016, but the implementation started two years after this Regulation came into force, and on that way European Parliament and Council of the European Union enabled all those who collect others personal data to adjust their business towards GDPR. As we are living in time where the flow of personal information through media and other sources of information is normal occurrence, everyone that is collecting others people personal data got opportunity to gradually adjust their business with GDPR, that was enacted to increase the protection of individuals because the elements of protection until then were not considered satisfactory for current methods of data collection (Boban, 2018). Bearing in mind that the protection of personal data and fundamental freedoms

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7 Consolidated versions of the Treaty on European Union and the Treaty on the Functioning of the European Union**,** *OJ C 202 od 7.6.2016, p. 1.–388.;* https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=OJ%3AC%3A2016%3A202%3ATOC, accessed: 7. January 2020.

8 Directive on the European Parliament an the Council of 24 October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such a data, 95/46/ EC, https://eur-lex.europa.eu/legal-content/en/TXT/?uri=CELEX%3A31995L0046, accessed: 24 January 2020.

of individuals requires a more complex system of protection. The European Union has imposed on all private and public organizations, institutions and legal entities a unique way in which this data can be collected throughout the EU. Although the General Regulation is a document that relates primarily to the European Union, some authors consider that it actually has a global impact (Goddard, 2017, 703). The Croatian Personal Data Protection Agency[9] has been established as a regulatory body to oversee the implementation of the GDPR in the Republic of Croatia, which acts independently of the legislative and executive authorities and does not answer to any other state body.

One of the basic misconceptions when talking about GDPR is that those who collect someone else's personal information must have the explicit consent from the individual whose information they store, which is not entirely true, but it surely is the most likely to engender user trust (Politou, Alepis, Patsakis, 2018). Although most personal information is collected on the basis of consent, for which the data processing controller must have evidence that consent has been given, the GDPR allows Member States, within the powers it has prescribed under this Regulation, to collect the personal data of individuals, with the key assumption that it is done in a "lawful" manner, together with the two other basic principles - fairness and transparency (Article 5 (1), GDPR). The GDPR provides Member States with space for action to better define its rules, including the processing of specific categories of sensitive personal data. In that sense, this Regulation does not exclude the right of a Member State to determine the circumstances of particular processing situations, which includes a more precise determination of the conditions under which the processing of personal data is legal (Boban, 2018). Therefore, the GDPR enables a Member State to adopt regulatory acts which would further ensure the application of the rules contained in this General Regulation, with particular emphasis on personal data from specific categories, the so-called sensitive data (Preamble, para. 10, GDPR).

Special attention should be given to the processing of personal data in the health care system, because although the Republic of Croatia has one of the most developed digital systems, it is necessary that data processing managers invest as much as possible in the data protection system, because data on the health of individuals are at stake here (Pušić, Vulje, 2018). The role of these acts is to enable the State to collect personal data without the explicit consent of the person whose personal data is being used, especially in the public interest. When each use of personal information would require the approval of an individual, we would put ourselves in a situation that could have a completely different dimension than the one for which GDPR was enacted, for example, a situation where the Tax Administration is not able to control possible tax fraud because it does not have the "consent" of those whose data it collects because of a potential violation of the law.

One of the innovations that certainly had a major impact on the protection of individual rights, which is regulated by the GDPR is the Right to erasure better known as "right to be forgotten", following the judgment C-131/12 according to which the EU Court allowed individuals to request the erasure of personal information that the Internet search provider (in this case Google) shares with third parties. Although this is not really about permanently deleting data, but simply about banning the sharing of data with third parties, this judgment is popularly known as a "right to be forgotten judgment" (Gumzej, 2016, 171-174).

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[9] The Croatian Personal Data Protection Agency is the only independent public supervisory authority in the Republic of Croatia within the meaning of the provision of Article 51 of the REGULATION (EU) 2016/679 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 April 2016, https://azop.hr/about-agency/ accessed: 12 February 2020

The GDPR allows an individual to request the erasure of their personal data from the collector, and the collector is required to do as follows without unnecessary postponement if any of the following conditions are met: personal data are no longer needed in relation to the purpose for which they were processed or collected; that the person withdrew the consent; if the person does not want the information to be used for direct marketing purposes; the personal data have been collected in relation to the offer of information society services; the personal data have to be removed for compliance with a lawful obligation in EU or controller's Member State law and finally if the data were unlawfully processed (Article 17, para 1, GDPR). If any of these assumptions are fulfilled, the collector, in accordance with the technical and financial capabilities, is obliged to delete all data, as well as their links, reconstructions or copies.

4. Research results on post - GDPR developments among students at University of Osijek

The aim of the online survey conducted in February 2020 among two students' populations at University of Osijek, namely law students and information science students, was to explore their awareness and familiarity with the main GDPR terms and principles in context of use of modern technologies especially new health technologies which offer the great potential for growth and economic development. Regarding personal information related to information and communication technology recently appeared a free movement of non-personal data across the Member States and information systems in Europe and the meaning of non-personal data in the light of Regulation (EU) 2018/1807. For example, calories burn data are non-personal data but they have to be treated as personal data because of the interaction in the app. In the online survey participated total of 110 students, 30 (27.3 %) male students and 80 (72.7%) female students. Figure 1 shows the age distribution of students participated in the research.

Figure 1: The age distribution of students
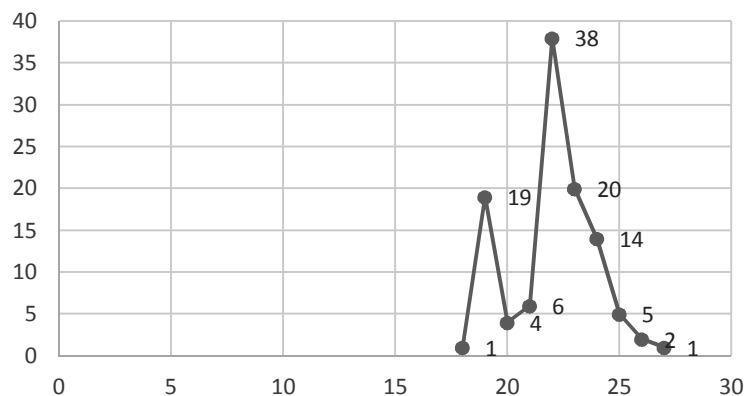
Source: authors

From the Department of information science at Faculty of Humanities and Social Sciences Osijek participated 52 (47.3%) students and from the Faculty of Law participated 58 (52.7%) students. From the first year of undergraduate study participated 29 (26.4%) students, from the first year of graduate study participated 67 (60.9%) students and from the second year of graduate study participated 14 (12.7%) students.

Figure 2 shows students' perceptions and preferences regarding their revealing of personal data such as communication with other users of social networks or revealing of personal data in purpose of e-shopping. Furthermore, students' habits and concerns regarding revealing of their personal data are shown at Figure 2.

Figure 2: Students' perceptions and preferences on personal data
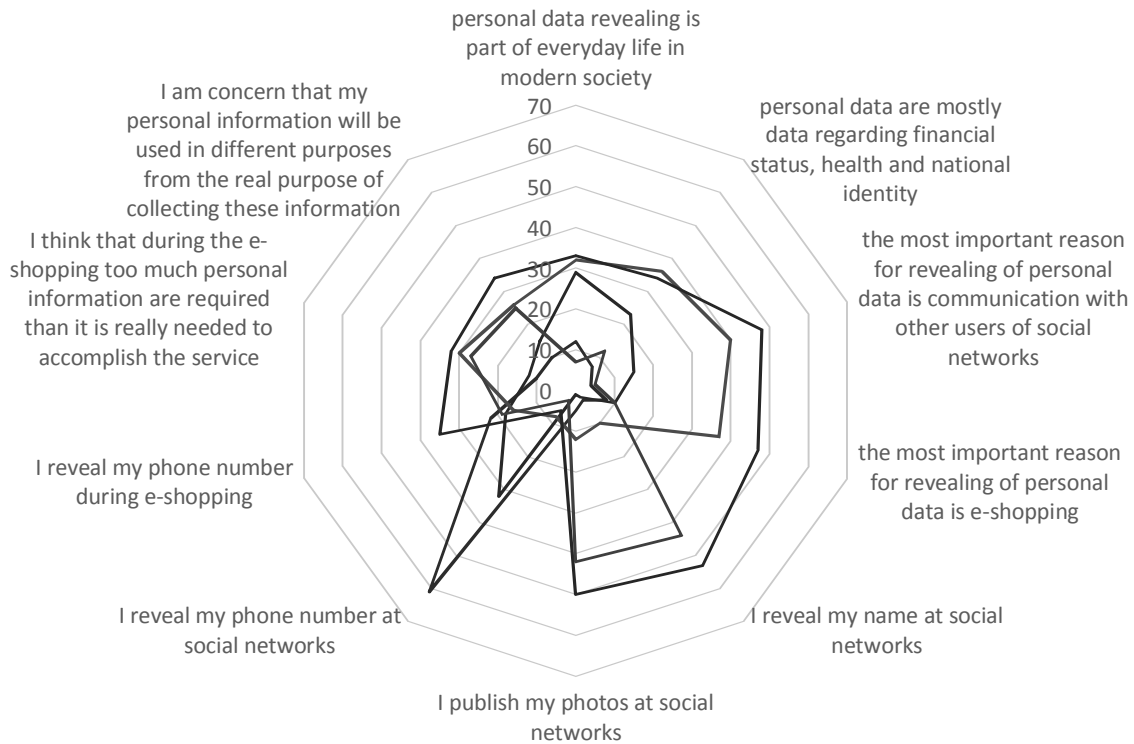
Source: authors

Figure 3. shows students' familiarity with GDPR protection regarding different categories of personal data such as basic data – name and surname, number of identification card, location data, credit card data, heartbeats data, health card (invalidity, history of disease etc.), biometrics data (cornea scan, finger prints etc.), personal weight data, genetic data, religious and philosophical ballast, ethnical affiliation, economic status, blood pressure data, calories burn data, labour membership, sexual orientation, IP addresses, e-mail messages, steps number data and cookies in browser.

Figure 3: Students' familiarity with GDPR protection regarding different categories of personal data
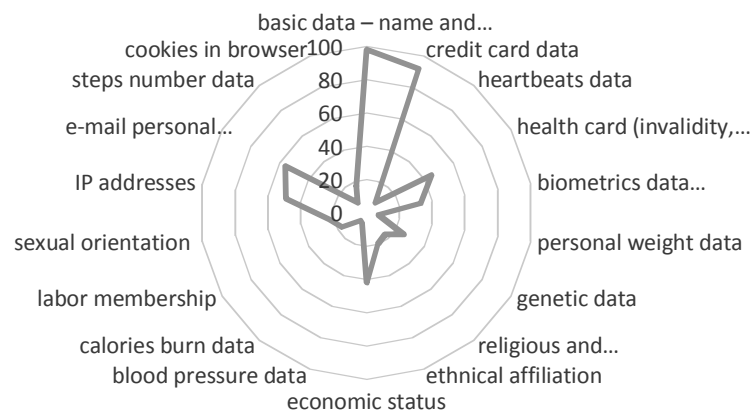
Source: authors

Figure 4. shows students' familiarity with main GDPR principles especially with the six fundamental GDPR principles: (1) lawfulness, fairness, and transparency, (2) purpose restriction, (3) data minimization, (4) data accuracy, (5) data storage limitation and (6) data security.

Figure 4: Students' familiarity with main GDPR principles
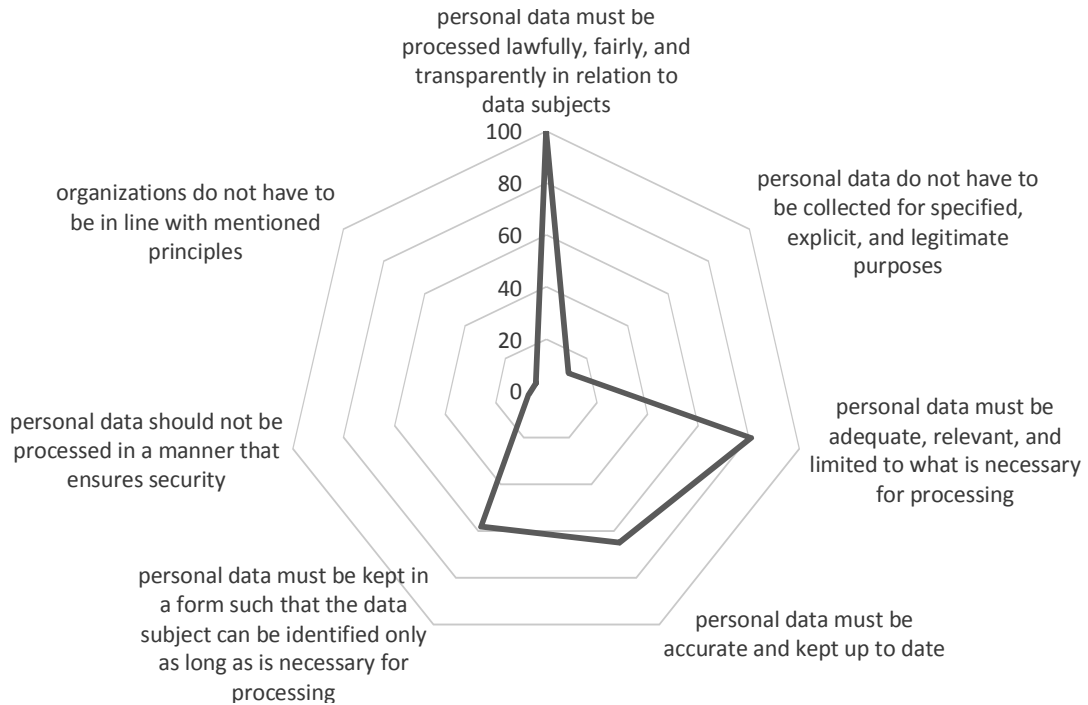
Source: authors

Figure 5. shows students' awareness with GDPR during the usage of following applications such as Viber, Skype, Messenger, Facebook, Instagram, Twitter, Pinterest, Linkedin, TikTok, Pedometer, Runtastic, Lifesum, Endomodo, 30dayFitness, FitBit, 7minWorkout, MyFitnessPal and GoogleFit.

Figure 5: Students' awareness with GDPR during the usage of different applications
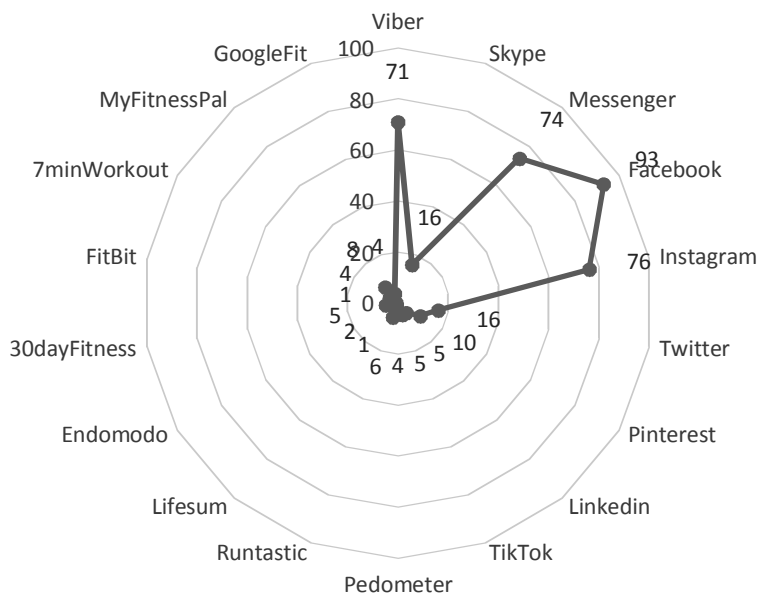
Source: authors

5. Discussion and conclusion

The research results revealed that students of information science and law students at University of Osijek are very well familiar with following main GDPR principles: (1) lawfulness, fairness, and transparency, (2) purpose restriction (limitation), (3) data minimization, (4) data accuracy, (5) data storage limitation and (6) data security. Students were familiar with GDPR protection of personal data such as basic data – name and surname, number of identification card, location data, credit card data but they were less familiar with GDPR protection of other categories of personal data such as heartbeats data, health card (invalidity, history of disease etc.), biometrics data (cornea scan, finger prints etc.), personal weight data, genetic data, religious and philosophical ballast, ethnical affiliation, economic status, blood pressure data, calories burn data, labour membership, sexual orientation, IP addresses, e-mail messages, steps number data and cookies in browser. Students were aware with GDPR during the usage of the most popular applications such as Viber, Messenger, Facebook and Instagram but the majority of students were not familiar with GDPR at all during the usage of other applications such as Skype, Twitter, Pinterest, Linkedin, TikTok, Pedometer, Runtastic, Lifesum, Endomodo, 30dayFitness, FitBit, 7minWorkout, MyFitnessPal and GoogleFit. Students were very divided about the fact that personal data revealing is part of everyday life in modern society. The majority of students believe that personal data are mostly data regarding financial status, health and national identity. The majority of students answered that the most important reason for revealing of personal data is communication with other users of social networks thus they reveal their name, photos and phone number at social networks. Also, the majority of students answered that they reveal their personal data in purpose of e-shopping although they think that during the e-shopping too much personal data are required than it is really needed to accomplish the service. According to the research results it could be concluded that the majority of students are concerned that their personal data will be used in different purposes from the real purpose of collecting of these information.

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A scientific paper

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PRICE ADJUSTMENT STRATEGIES AS PART OF MARKETING STRATEGIES

ABSTRACT

Businesses must deal with many issues during their existence. Managers must find solutions to many problems and face to different challenges. Achieving prosperity and creating and maintaining competitiveness are among the most important and goals of the businesses. Marketing strategy is the most important and long-term used tool of strategic management of any company operating in a highly competitive market environment. Regarding the long-term prosperity of the company in the market, it is important to realize that marketing strategy relates to success. Marketing strategy is a tactical process, the goal of which is to effectively allocate limited funds of a company to increase sales and maintain a competitive advantage. The customers have the key role in the process of marketing strategy. Only a satisfied and loyal customer creates long-term profit for the company. The marketing strategy consists of several parts, one of which is the pricing strategy. Pricing strategy is a summary of measures, instructions, procedures and rules of intervention in the area of prices aimed at achieving long-term strategic objectives of the company. It is a concept of approaching different pricing decisions. Pricing strategies are the tools a business uses to achieve its pricing goals. Part of the company's pricing policy is to look for appropriate methods and tools to adapt prices, initiate and respond to price changes, change prices - raising and lowering prices. The aim of the paper is to elaborate the issue of marketing strategies with emphasis on price adjustment strategies, which is the part of pricing strategies. Data used in the paper are based on the method of analysis, synthesis and comparison. The results focus on price adjustment strategies.

Key words*: marketing, marketing strategy, price, strategy.*

1. Introduction

The current business environment is affected by technological change, new information technologies and new business practices. According to Krizanova, et al. (2014) these changes cause an increasing need and pressure for productivity, efficiency and competitiveness in

companies. Substantial changes in the current business environment and increasingly competitiveness is forcing companies to implement a customer-centric strategy that focuses on customer satisfaction, customer loyalty and quality of service (Minh & Huu, 2016). In today's business environment that is full of competition and customer engagement, every business needs to consider in detail all the steps it takes during its operations. These can be short or long-term steps. One of the first steps a company must take after it is set up is to set the main goal and sub-goals of its business. Subsequently, however, it must also address the steps and actions through which it will achieve these objectives. Marketing strategy is a way of setting these steps and procedures for achieving goals. The decision-making of the company on individual products is focused on the production program and assortment, on quality, design, brand, packaging, business-technical services, guarantees etc. (product quality, product design, product brand, product packaging). One of the most important decisions in relation to the produced product or the service provided is price because it determines the value of the product and can be a source of profit for the company. Price is one of the basic tools of the marketing mix and it is therefore essential for businesses to focus on pricing policy when building and creating a marketing strategy. The paper is divided into two basic parts, theoretical and practical. The theoretical part is devoted to defining the basic issues, such as marketing, marketing strategy, marketing mix. It deals more closely with the company's pricing policy and pricing strategies. The practical part is based on the method of analysis, synthesis and comparison. The results presented in the practical part are focused on the strategy of price adjustment.

2. Theoretical background

Marketing is the sum of business activities that control the flow of products and services from the manufacturer to the consumer or user (Prachar, 1991). According to Majerova (2014) marketing is the process of planning, implementing and monitoring price developments, distribution of the product and promotion while simultaneously are fulfilled all criteria of satisfying the customer needs. According to Hingston (2002) the aim of marketing in business is to make the marketer offer the right product (one that meets the consumer's wishes), to the right consumer (who is interested in it), at the right time (when the consumer needs it), at the right place (where the consumer wants it) in the right quality (which suits the consumer), at the right price (which reflects quality and the consumer accepts it). These conditions and requirements can be provided by the company by developing the right marketing strategy and setting the appropriate marketing mix.

The strategy is the fundamental task of the organization's management, which involves developing and adapting the business activities of the organization to the changing market conditions, opportunities and threats. Lakhani (2010) understands the strategy as a summary plan and an overall picture of the procedures the company uses to achieve its goals. In the context of strategic management, the factors that make up the strategy are important, especially because they increase strategic performance (Chijioke, et al. 2018). According to Donnelly (1997) marketing strategy is a process of analyzing the possibilities of a company, selecting objectives, elaborating and formulating plans and implementing marketing measures. Marketing strategy is a unified, comprehensive and integrated plan that is designed to ensure the achievement of the organization's core goals. It is the way in which an enterprise is to achieve its goals. It is important to assess marketing effectiveness in implementing a marketing strategy (Krizanova, et al., 2019). Marketing strategy can be part of a product, pricing, promotion, and distribution strategy.

Petru & Kupec (2015) state that the marketing strategy of the company is formed by the marketing mix together with the target segment selection. Kovalckova & Bodo (2014) define the marketing mix as a set of controllable marketing variables that the company combines

into a whole to produce the desired response in the target market and to buy the product. It contains all the activities that a company can influence the demand for its products. Marketing mix is a set of marketing tools that a company uses to achieve marketing goals in the target market. These tools are used by the company to stimulate customer activity. With a good understanding of the needs and expectations of the customer, the company can use the elements of the marketing mix to guide customers' behaviour according to the needs of the company. Marketing mix are the four major marketing tools that bring strategy into business reality. They are so called "4 P" – product, price, place and promotion (Krizanova, et al. 2013). According to Bracinikova & Matusinska (2017) it is one of the most commonly used classifications of marketing mix. Product includes a combination of goods and services (products) that the company offers to the target market. Price is the amount of money negotiated for the purchase and sale of goods or created for valuation for other purposes. Place represents all business activities that ensure that the product is available to target consumers. Promotion means all activities that convey information about the product and convince the target consumers of the convenience of buying it (Smith, 2000). In terms of marketing strategy and marketing mix, it is important that a successful product can only be as long as the business uses all the elements of the marketing mix.

Vastikova (2014) states price as one of the basic elements of strategy and marketing mix, because price is something that brings the product or service closer to the customer. Price is the only marketing mix tool that brings revenue to the business. It is the amount of money paid for the product on the market (Birnerova & Kral, 2013). For most consumers, the price is a measure of the value of the products because it indicates how much money the buyer has to give up in exchange to get the product offered. Price is an important factor in purchasing decisions (Valaskova, et al. 2018). Price is a monetary expression of the value of the product. If the price is proportional to the quality of the product, the customer is willing to pay for what he / she is expected to satisfy. If prices are too high, it discourages customers, on the other hand, too low prices given off to customers. Therefore, if the price is incorrectly determined, the company will lose the customer and it will go to competition. The price manager must consider costs, relative price level, purchasing demand level, price role in sales promotion and discounts. Any business activity that is related to price is referred to as pricing policy. The main tasks of pricing policy are pricing, price change and price adjustment (Birnerova & Kral, 2013). Deciding on pricing is very important. Price is the only and most flexible element of the marketing mix that brings the company revenue. It should correspond to the customer's expectations and at the same time bring value for the company. The pricing strategy (Feng, et al. 2019) is a summary of measures, instructions, procedures and rules for price interventions aimed at achieving the company's long-term strategic objectives. It is a concept of how to deal with different pricing situations.

Pricing (Fanelli, et al. 2018) is based on product decisions, distribution and marketing communications, but it is also important to consider many internal and external factors. Internal factors affecting pricing include marketing goals, marketing mix strategy, cost, and pricing decisions. External factors affecting pricing include the nature of the market and demand, competition and other macro environment factors (Kita et al., 2017). In addition to internal and external factors that determine pricing, we can also meet three other factors: competition, costs and demand. When setting a price, it is very important to consider all 3 factors. These factors are also referred to in the literature as the magic price triangle. If we look at this triangle, we will come up with 3 pricing approaches: cost-oriented pricing, demand-oriented pricing, and competitive pricing (Kita et al., 2017). In a cost-oriented approach, costs are taken as a starting point and profit. The competition-oriented approach focuses on the benchmark which is the price of comparable competing products. The customer-oriented approach is based on the customer's perception of the value it attributes to products. Customers' behaviours (Radulescu, 2018) is an important factor in setting a pricing

strategy. Among pricing strategies which can significantly influence customers' decision to buy a given product and the company can use them as part of its pricing policy include price adjustment strategies.

Birnerova & Kral (2013) between price adjustment strategies include: rebate and compensation strategies, price differentiation strategies, psychological pricing strategies, promotional pricing strategies, geo-pricing strategies. Price Adjustment Strategies include all price strategies that businesses use to distinguish the customers and changing environment.
Rebate and compensation strategies (Zhou, et al, 2017) are strategies aimed at providing discounts under certain conditions or in certain situations to specific customers. Concrete tools of these strategies include cash rebate, that represents a percentage deduction or discount from the base price, natural rebate, which is realized in the form of goods, rebate for quantity that can be applied to large orders, seasonal rebate. It also includes a loyalty rebate, which depends on the length of the business relationship between the customer and the business (Birnerova & Kral, 2013). According to Yang & Dong (2018) the rebate strategy expands market demand in both periods and brings more profit to the retailer. Rebates provide an important and popular promotional tool (Kim, 2006). According to Khouja (2006) offering rebates can have significant effects on pricing.

Price differentiation strategy is a strategy in which an enterprise offers products or services of the same kind at different prices. The main objective of this strategy is to tap the market potential and consequently strengthen the market position and reduce the impact of competition. A specific strategy is, for example, spatial price differentiation, which can occur at the level of a place, region and geography. The essence of this strategy is to apply different prices to the same products in different geographical areas. Another strategy is time price differentiation. According to Jayasawal & Jewekes (2016) with time differentiation, there are lower prices or higher prices in different time periods. An important strategy of price differentiation is personal price differentiation, which is applied mainly for social reasons, for example for travel tickets where there are different prices for children, students, adults and pensioners. Regarding the price change Zhao, et al. (2020) state that the price strategy is easy to change due to short-term market behaviour. Price differentiation has long been recognized as a strategy that companies can use to increase profits (Wolk & Ebling, 2010). According to Raza (2015) price differentiation is one of the commonly used tools in which the seller offers his customers the same or slightly different products or services at different prices. The benefits of price differentiation are clear when market segmentation is assumed to be perfect. Vogel & Paul (2015) state that price differentiation has a positive effect on customers through perceived value and that companies should carefully choose their pricing tools.

The psychological pricing strategy focuses on the relationship between price and quality perception. This strategy is often used for example for alcoholic beverages, perfumes and luxury cars. According to Nadanyiova (2017) product purchase decisions are largely influenced by emotions. This is one of the reasons why the psychological price has a significant impact on consumer behaviour (Bognar, et al. 2017). In relation to the psychological price and the loyalty program Chang & Wong (2018) cites the significance of the perceived benefit, complexity and risk that can lead to the psychological reality of the consumer. Psychological pricing may be one of the most powerful price adjustment strategies. According to Bespalyuk, et al. (2018) psychological factors significantly affect consumer choice.

Promotional pricing strategy (Sinha & Adhikari, 2018) are temporarily reducing prices to increase short-run sales. Some businesses try to promote their products by lowering down the prices of their products below list price. The aim of this strategy is to attract the more customers in short period of time.

Geographical pricing strategy is strategy, when pricing must consider geographic impacts that reflect different demand requirements as well as different cost levels (Sagatova, 2011). This strategy is based on adjusting prices to account for the geographic location of customers. If the customers are living in distant areas, companies must set higher prices to cover the cost of shipment. Birnerova & Kral (2013) state five geographical pricing strategies. By applying the FOB strategy of the country of origin (Zhang & Sexton, 2001), the goods are delivered free of charge to the first carrier, and from this point on, the costs and responsibilities pass to the customer who pays for transportation from the point of manufacture to destination. The second option is a uniform delivery price regardless of distance (Ohta, et al. 2005). The third option is the zone price (Adams & Williams, 2019) where the company sets certain price zones, and the more distant the zone, the higher the total price. Another option is the price including freight. This strategy means that the company aggregates all or part of the shipping and transport costs into the final price of the product (Poliak, et al. 2013). The last option is the point-of-departure method, whereby the seller identifies one point as the point of departure and charges all customers the shipping from that point, regardless of where the goods are distributed.

3. Methods

The aim of the paper is to analyse price adjustment strategies that are part of pricing strategies. The results focus on price adjustment strategies. The aim of research was to find out what types of selected price adjustment strategies are used by the participants of our survey. Based on the aim of the paper and research and based on literature review (Birnerova & Kral, 2013; Zhou, et al, 2017; Yang & Dong, 2018; Chang & Wong, 2018; et al.) we set a **Research question:** What types of price adjustment strategies use addressed participants?

The surveyed group consist of 314 (100 %) selected respondents from the district of Zilina. The selected respondents participated in a questionnaire survey. The questionnaire was created and distributed in electronic form via Google Form**.** The results were analyzed using MS Excel. We have evaluated the questionnaire through descriptive statistics. Questionnaire survey was attended by 152 women, representing 48 % of the survey population and 162 men, or 52 % of the survey file. In the questionnaire, we investigated which price adjustment strategies customers prefer, focusing on specific rebate strategies and strategies of price differentiation. As part of our rebate strategies, we selected a cash rebate, loyalty rebate and natural rebate. We chose personnel price differentiation, time price differentiation and place price differentiation from the strategies of price differentiation.

4. Results

Based on the results of the questionnaire survey (Figure 1), we found that the selected respondents used the most cash rebate (83.76%), loyalty rebate (78.98%) and personnel price differentiation (76.75%). 35.67% of respondents use natural rebates, 23.89% of respondents use time price differentiation and 21.97% of respondents use local price differentiation.

Figure 1: Use of selected pricing strategies
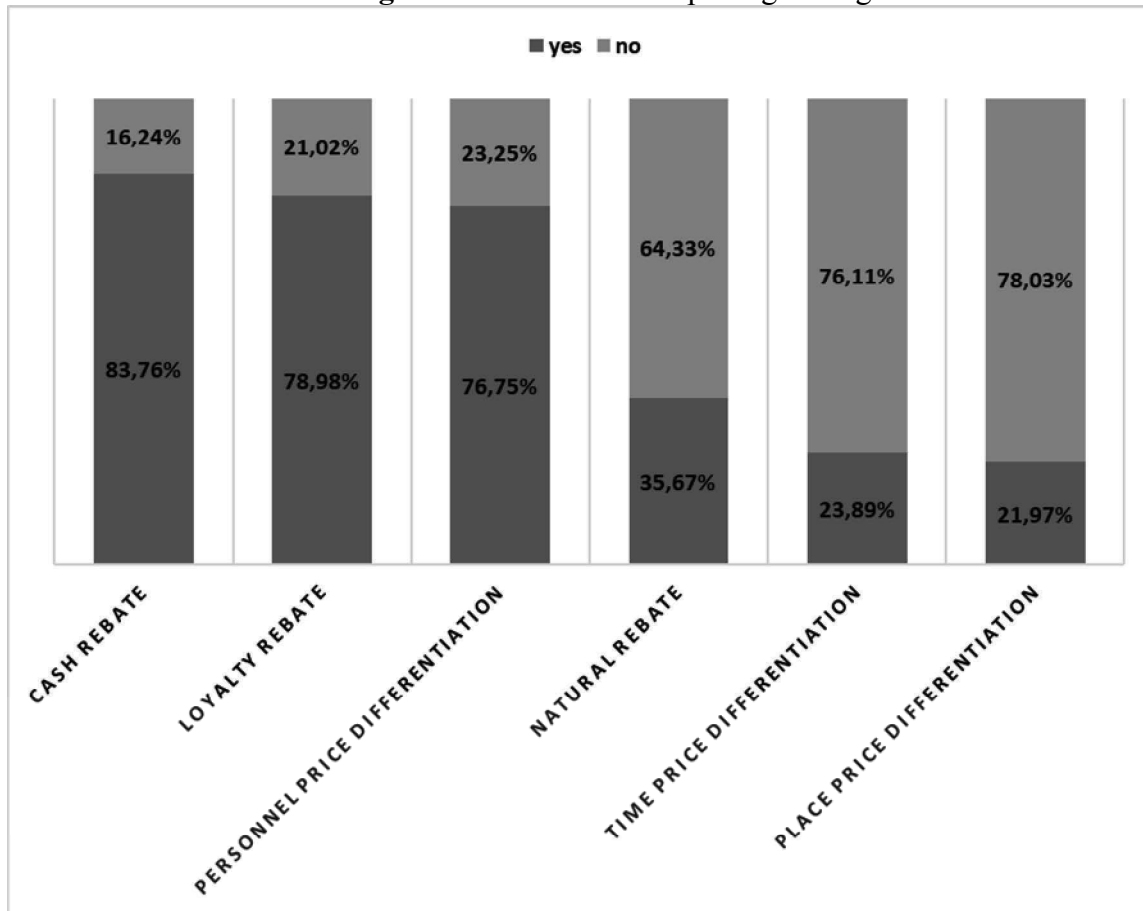
Source: authors

Current marketing theories provide several tools through which businesses can gain and retain customers. These tools include for example pricing strategies we focus on in our research. Based on literature review, findings and results, we conclude that price adjustment strategies are an important tool of modern marketing in the field of pricing policy. Businesses should constantly build and modulate their pricing policy and adapt it to market conditions, considering the competition and regarding segmentation and customer requirements. However, as market conditions, and the requirements of customers as well as consumer behavior, change regularly, it is necessary that this issue be given enough attention.

We consider it important to state that results of our survey cannot be generalized due to a small and unrepresentative set of participants. Another limit for the generalization of the results of the questionnaire survey is also that the questionnaire was directly addressed to participants living in the district of Zilina. Even though we collected the necessary empirical material, only one circuit of statistical data analysis was used in its analysis and interpretation. Another limit for the generalization of the results is the fact that the analysis of all possible variables such as education and age was not performed.

In the context of our findings and the established limits in research, it may be recommended for future research to examine the opinion on price adjustment strategies from the perspective of companies. Another recommendation for future research is to carry out a more thorough analysis regarding consumer segmentation and the expansion of the range of respondents. Our last recommendation for future research is to expand the theory and its subsequent use and application in the empirical part regarding other pricing strategies.

5. Conclusion

Pricing strategies are the tools a business uses to achieve its pricing goals. Companies apply different pricing strategies to accommodate differences between consumer segments and different situations. Individual steps and decisions of businesses in the area of pricing strategies as well as overall marketing strategies should be coordinated and implemented with an emphasis on maintaining competitiveness, as well as gaining and maintaining a customer relationship. Each company should strive to effectively build marketing strategies, a significant part of which is the marketing mix, which consists of product, place, price and promotion. It is the price that is the component of the marketing mix that brings profit to the company, so it is important that businesses pay attention to it through the implementation of different pricing strategies.

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CLOSE COOPERATION AS PATH TO THE SINGLE SUPERVISORY MECHANISM[1]

ABSTRACT

The Single Supervisory Mechanism (SSM) represents the system of banking supervision in the European Union which is conducted by the European Central Bank. It conducts supervision directly for significant credit institutions and indirectly for less significant credit institutions in the 18 member states whose currency is the euro. Countries from the euro area automatically participate in the SSM, while participation in the SSM for non-euro area countries is on the "opt-in" basis. Member state, whose currency is not the euro, may formally request for establishing the close cooperation between the European Central Bank and its national supervisory authority. Once close cooperation has been established, the member state whose currency is not euro will join the SSM. So far, no member state has established close cooperation with the ECB. Bulgaria and Croatia are the first two non-euro area member states which have submitted a formal request to establish the mutual cooperation with ECB. In this paper, the process of establishing close cooperation with the ECB will be in detail explained and illustrated. Benefits and disadvantages of the close cooperation will be presented and compared with the option of not participating in the SSM. Legal grounds for establishing the close cooperation will be presented in more detail. Difficulties that Croatia faces in the process of establishing close co-operation will be introduced. Considering the high level of internationalization of banking business in general and strong presence of foreign-owned banks in Croatian banking system, national regulator already has tight interaction with the European Central Bank, but it will be certainly fostered through the establishment of close cooperation. Participation in the SSM will provide national regulators inter alia to harmonize their supervisory practices on the supranational level and therefore is one of the cornerstones for completion of all three pillars in the banking union.

Key words: *Single Supervisory Mechanism, banking supervision, close cooperation, supervisory authority, banking union*

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[1] The views expressed in this article are those of the authors and do not necessarily represent the views of their employers.

1. Introduction

Expected impacts of creating the banking union in the future can be summarized in the goals of having more stable and stronger European banking system which will be finally comparable and competitive to global financial systems. Since the role of trust in banks is crucial for the functioning of the banking system, the intention of creating the banking union was also aimed to set a preventive mechanism which will anticipate future financial crisis and will serve as a precautionary measure for potential negative scenarios in the financial systems. Indirect goals are designed to help the real economy to be developed in an efficient manner and to exclude the taxpayers' money for funding the bankers' mistakes from the past as it was the case during the financial sector bailout in 2008. The benefits of creating the banking union will also become evident through better coordination of activities between the government and financial institutions which will enable better management of public debt policy and less vulnerability on external shocks through three main pillars: integral supervisory mechanism (SSM), single deposit insurance systems (EDIS), and integrated rescue mechanism (BRRD). The idea of creating the banking union on the supranational level aims to establish a mechanism which will recognize in a timely manner market imperfections and consequently impact on the decrease of accumulating systemic risks based on the unsustainable interinstitutional linkages. The ultimate goal was to protect deponents and their deposits, but also the taxpayers' money in a case of bank failures. Resolution schemes based on the bail-in approach are supposed to be funded by enough accumulated amounts from investors for potential bank restructuring and rescue.

In this first part of this paper it will be presented the analyses of banking union characteristics, wider impact and specificities of implemented measures and practical efforts, main key measures and their aims, architecture (structure) of the EU banking system, profitability and risks indicators. The second part of this paper explains in details the core phase in the process of close cooperation, legal form and position of non-euro countries in this arrangement. In the third part of the paper, strengths and weaknesses of establishing close cooperation will be described and analyzed.

The process of establishing close cooperation between the Croatian National Bank and European Central Bank is in progress so there are still not measurable all the costs and benefits of participating in such a venture. However, the comprehensive assessment of Croatian banks has offered a brief look at the methodology and expectations that will be implemented from the ECB within the oversight of Croatian banks in the framework of SSM.

Considering the different approaches towards supervisory responsibilities in the EU countries, the foundation of the banking union has inter alia the goal of harmonizing different supervisory practices. By the alignment of supervisory activities led by ECB and by harmonizing regulatory framework under the control of EBA, banking union was designed as an important step forward to the unified approach to the national and supranational credit institutions.

2. Banking supervision in EU: characteristics and functions

2.1. Banking union building blocks

The theory of financial intermediation is based on the assumption that the market size is positively correlated with the ability of the market to mobilize capital and diversify risk, and indicators of market activity (turnover in relation to GDP is the best indicator of market development). Although the scale of financial intermediation with the support of financial markets and traditional and modern financial instruments has a low level of development in Europe, the European Union has invested significant efforts in its development, for maintaining financial stability (Pavković, Matek, 2019). In European financial system loan activity acts like prerequisite to other economic activities and implicitly only health and strength of financial system can produce positive synergy effects on economic growth. Connectivity between loans'

supply and demand is extremely complex phenomena and cyclically interconnected. In recent researches demand side is considered as only signal of worsen loan activities, supply side is underestimated and barriers on supply side should be eliminate to promote economic efficiency. Trends in banking structures in the EU and loan structures in times of procyclical circumstances had also negative influence on economic activities in recent years (Pavković, 2015).

Banking union is colloquial name for mechanism of supranational supervision of credit institutions in European Union. It is decentralized, multilevel system of micro prudential and macro prudential authorities and bodies for harmonized financial prudential supervision.

Single supervisory mechanism (SSM) is the first, fully implemented pillar, complementary to European monetary union in force from November 2014. It refers only to about 6,000 banks in Euro Area and it is based on the most detailed stress test for banks and the most comprehensive asset quality data book. The process had included high level of cooperation between supervisory authorities which is proper for all banks according to integral general principles but the supervisory results will help supervisory processes and comparability. European Central Bank has the primary role with national authorities, it is open for Euro Area participants, but it is also open to other member states. The direct mandate of the ECB refers to banks with assets larger than 30 billion Euros or if they participate with minimum of 20% in national GDP which refers to almost 130 banks. ECB supervises the process of supervision for smaller institutions. Integrated deposit insurance systems and harmonized banks rescue systems represent the second and third pillars of banking union, which complete implementation is expected at the end of 2024 (Pavković, 2015).

2.2. Banking sector' rules and measures: past and future

To be efficient and effective, the regulation and supervision of financial system should consist of the following important areas: financial stability, markets competence, transparency, frame for crisis solving, frame for financial innovations, market integration and efficiency and to be cost effective. These duties are transferred to central banks, single authorities and other bodies. In times of financial crisis culmination 2008 in EU national regulatory and supervisory financial systems mainly national rules to solve failed banks were in place, with minor rules and coordination mechanisms on European level. In order to rescue failed banks a huge amounts of money are being transferred from national budgets and tax payers (Pavković, 2013, 21).

The last financial crisis demonstrated that dismiss of coordination between regulatory authorities which cover different scope of financial system could have quite negative consequences. With the supervision focus on complementary risks based on similar activities, but also on the systemic risk, all mentioned had leads to the form a macro prudential bodies with main tasks to coordinate prudential control between national regulators, to cover potential unregulated parts of system and to create conditions for most effective coordination. The most important regulatory issues from 2008 are addressed to: capital requirements, liquidity standards, systemically important institutions, micro and macro regulation, crisis intervention, financial markets instruments and mechanism reform, sanction and remuneration policies (European Banking Federation, Liikanen Task Force Report, 2014.). But new regulatory frame leaves the scope for more flexible and national discretion in cases of national specific credit and economic calluses. After financial crisis new regulatory and supervisory set of rules had implemented different and complementary aims:

- Future crisis prevention and more efficient systemic crisis management;
- Stronger supranational supervisor which promote integrated rules;
- More successive rules introduction for more quality capital;
- Rules and procedures with problematic institutions.

There are a dozens of measures as an integral part of banking union components in form of regulation, directives, implementing and regulated technical standards, guidelines, laws, decisions and other acts at European and national levels. The code act is Regulation 57/2013 with Directives 2013/36/EU as legal supervisory frame for credit institutions and investment firms is mainly focused to capital requirements for credit, credit, market and operational risks, large exposures, liquidity risks, reporting standards, leverage, public disclosures, etc., and is adopted as a consequence of the financial crisis and measured coordinated on global level. A great part of rules and measures are also adopted for optimization and integration of supervisory tools in European Union in wider sense and Eurozone Area on the other hand as a necessity for completing banking union.

The aims of novella Directive (EU) 2019/878 which changes CRD 2013/36 is solving unresolved problems from previous acts according to international standards, better coordination for consolidated subjects to avoid regulatory arbitrage, moral hazard and market abuse. The proportionality principle represents the aim and it includes scope, size, structure, complexity and organization of supervised institutions and compliance with SREP process and compensation schemes. Also leverage standards should be complementary to capital requirements. Money laundering financing and terrorism rules should be in mandate of regulatory authorities. Preamble include also suggestions to revise macro prudential frame on national level on way to permit national discretions in different areas like: loan to value ratio, loan to income ratio to prevent systemic risks, loan to debt, loan duration, the credit growth rates (Directive (EU) 2019/878).

Regulation (EU) 2019/876 is referring on leverage ratio complementarity with capital requirements, long term liquidity ratio introduction (NSFR), CET ratio, market risk, large exposures, reporting standards and in wider sense solving the rest problems, banking union and capital market union set up. Also the role is to adapt and complement to the international standards of Basel III. Also TLAC (Total Loss-Absorbing Capacity) require from GSIB to have enough obligations to absorb losses. One of proposals is decreasing capital requirements for SMEs because they are the key for economy growth and employment. Infrastructure investments are considered significant for the EU because investments contribute to the increase of productivity and new jobs (energy and internet networks, traffic infrastructure, electric mobility, education, research, innovations, new sources of energy, etc.) and in that sense it is necessary to decrease their capital requirements according to investment analysis and plans with the wider goal to promote circular economy, low levels of carbon and sensitivity to climate changes. Dozens of delegated acts are meaningful and European Commission is under the jurisdiction to create them. EBA is obligated to generate proposal for implementing technical standards with aim of comparability of disclosures, especially according to the practice, scope and terms of proportionality regime. Also EBA should develop IT model for implementation of proportionality to reduce costs for smaller and more simple banks, to reach more homogeneity in statistical, rescue and prudential data collection, and also to avoid double reporting, to reduce administrative and financial costs of banks, national and supranational authorities and institutions (Regulation (EU) 2019/876).

According to projections potential risks in the euro area in next three years are: economic, political and debt sustainability challenges, business model sustainability and cybercrime and IT deficiencies, followed by strategies for banks strategies' for non-performing loans (NPLs); easing lending standards; repricing in financial markets; misconduct, money laundering and terrorist financing, the global outlook and geopolitical uncertainties; reaction to regulation; and climate change-related risks (ECB Banking Supervision, 2020, Risk assessment for 2020-2022). Predicted potential and realized systemic risk materialization in Croatia are: potential growth of systemic risks (i.e. segments of loans or juridical results), health system debts and sustainability, international arbitrage processes, worse situation with macroeconomic factors, etc. (CNB, Macro prudential diagnostic, 2020). Also possible factors can be other than financial system, i.e. corona virus pandemic effects on economy globally, migrations, Brexit implications, etc.

2.3. Banking structures in European Union, Euro area and Croatia

European financial systems are mainly bank centric and deposit-to-loan oriented and the Croatian financial system is established bank centric as the most countries in Europe. In the aftermath of the financial crisis globally, the spill over effect from USA to Europe and the peak of this spill over effect could be seen in the economic consequences, but also besides this significant effect some other obstacles also stopped the intensive recover of whole economy. Also with the aim to more integrated financial system in EU, which should be more similar and competitive to USA and the rest of world, banking union is partly in force from 2014 and as a parallel, Europe is trying to promote capital market union with focus on different economic and financial areas. Capital market union represents different set of measures like innovative finance tools, develop SMEs as a key instrument of GDP growth, to reach financial instrument structures and to move from bank loans to other instruments complementary to traditional bank deposit-to-loan system (Pavković, Matek, 2019). Table 1 illustrates relative significance of core banking activities in Euro Area, Non-Euro Area and Croatia as well and larger market could be found on the side of Euro Area for almost all activities, traditional and complementary.

Table 1: Key banking indicators in Euro area, Non-euro area and Croatia, 2019, in million euro

Area	Credit institutions (no)	Assets	Loans	Deposits	Capital and reserves	Financial professionals (no)
Euro area	4,599	30,875,794	18,792,622	18,086,933	2,525,501	1,853,017
Non-euro area	1,489	12,471,467	6,323,141	5,441,418	892,242	813,520
Croatia	23	57	34	47	8	19,091

Source: European Banking federation and Croatian National Bank, official data, 2020

Innovated set of profitability and risks measurement tools in EU banking systems consists of chosen indicators of measures for solvency, asset quality, profitability, finance and liquidity. All above mentioned indicators are in purpose to maintain level of transparency, homogeneity and standardization for statistical and supervisory purposes. Methodology is constantly under the process of renovation, redesign, and modification because of the deficit and limitations of traditional accounting indicators, but also consequences of crisis, technics and methods' development. Indicators cover basic area of European banking business models: solvency as a fact if the subject is able to pay debts, asset structure and quality indicate the key banking credit risk connected with asset loan and investment class quality. Credit risk is analyzed in terms of trends, structure and triggers of volatility. The banking finance and liquidity ratios are important factors for identifying banking finance and liquidity position and profile (Pavković, 2019). Table 2 presents indicators for 2019 and almost all are continuously upgrading through the time in terms of profitability measures, risks exposures, capital positions, and general banks stability and strengths in wider sense.

Table 2: Chosen risks of banking sector in European Union 2019 and Croatia

	EU/EEA (%) Q2 2019	Croatia (%) Q2 2019.
Solvency indicators		
Tier 1	16.25	21.4
Tier 1 and Tier 2	18.9	22.6
CET1	14.6	21.4
CET 1 fully loaded	14.4	21.4
Leverage ratio	5.4	7.27
Credit risk and asset quality indicators		
NPE ratio	3.0	6.1
Coverage ratio	44.9	55.3
Forbearance ratio	1.9	-
NPE ratio	2.6	-

	EU/EEA (%) Q2 2019	Croatia (%) Q2 2019.
Profitability ratios		
ROE	7	11.6
ROA	2.1	1.57
C/I ratio	64.1	67.6
Net interest revenue	57.9	68.2
Net non-interest revenue	28.1	21.9
Net trading revenue to net operative revenue	12.4	8.0
Net interest spread	1.43	2.7
Risks costs (MSFI)	0.47	-
Finance and liquidity ratios		
L/D ratio (households and corporations)	116.4	72.7
Encumbrance ratio	27.4	-
Liquidity coverage ratio	149.2	143,0

Source: EBA, (2019), Risk dashboard, (2019) and CNB, (2019), official data

Public sector interventions after crisis were made in order to ensure stable financial system. These measures were implemented to demonstrate the necessity to make losses lower as possible after the collapse of global systemic important banks. Methodology for systemic risk management of these institutions by Financial Stability Board are developing from 2011 and it was in function of measurement matrix for their identification and additional capital requirements. From 2016 additional capital requirements are settled between a 1 and 3.5% risk assets. In 2013 and 2018 Basel Committee for Banking Supervision redesigned the methodology with the grace period for their implementation once they identify systemically important institutions. Identified institutions are obligated on a group level to develop and implement rescue mechanism, improve risk management, internal controls, data gathering systems, etc. (Pavković, 2019.). Key methodological issues are: methodology is based on quantitative approach based on indicators for systemic importance of Globally Systemically Important Banks (GSIB); chosen indicators implicate on bank size, their interconnectedness, possibility to change institutions with infrastructure, globally international activity, their complexity; if the bank is identified as GSIB that means it is classified into 5 buckets with additional requirement for loss absorption; methodology is revised after three years.

Stated requirements are based on numerous analytical studies to balance benefits from management of future financial crisis and negative impact on granted loans because of higher protection barriers (Tier 1, CET1). Stated criteria are minimal with permission to national authorities to set up higher requirements for banks. Table 3 indicates main GSIB capital and liquidity ratios from 2013 to 2019, and also nowadays indicator TLAC. As it is presented, all criteria have growing trend and promotion of more strengths and stability for significant part of Euro area banking system and globally. Table 3 consists of specific indicators for GSIB stability, liquidity and strength, and in period of 2013 to 2019 they indicate positive trends.

Table 3: EU GSIB capital and liquidity ratios, 2013 - 2019 (%)

	2013	2014	2015	2016	2017	2018	3Q 2019
CET 1 ratio	9.9	11.0	11.8	12.3	13.4	13.2	13.3
T1 ratio	10.8	11.8	13.0	13.8	15.1	15.1	15.0
Leverage ratio	3.6	4.2	4.6	4.7	4.9	4.7	4.7
Liquidity coverage ratio (LCR)	-	127.5	128.5	132.1	141.8	146.6	138.4
TLAC ratio (%RWA)	-	-	-	-	-	-	25.6
TLAC ratio (% exposure measure)	-	-	-	-	-	-	8.2

Source: AFME, Prudential data report, Q3 2019, p. 2.

The most of Croatian banking system is part of international banking groups, mainly with euro area countries residency. In that sense Croatian banking and supervisory system should be an

integral part of more practical system of supervision, reporting and statistical activities and due to the fact that supervision is realized on consolidated level it is expected that the processes should be more effective and accurate (Pavković, 2015).

3. The process of establishing and carrying out the close cooperation

3.1. Legal prerequisites and formats for close cooperation with ECB

Single supervisory mechanism (SSM) is defined in Article 2 (9) of the SSM Regulation as a system of financial supervision composed by European central bank (ECB) and national competent authorities (NCA) of participating Member States (Council Regulation (EU) No 1024/2013 Art. 2(9)).

Within the SSM the ECB carries out supervisory tasks and together with NCAs is responsible for prudential supervision of credit institutions authorized in participating Member States. All credit institutions in participating Member States are categorized as significant or less significant. The ECB directly supervises significant credit institutions, while the NCAs are in charge of supervising less significant. Significant credit institutions are less numerous than less significant but they are much larger. At the end of 2018 there were 110 significant credit institutions in the euro area member states with the total assets of more than 21 trillions of EURs and they all were under direct supervision of the ECB. On the other hand, there were more than 4,000 les significant credit institutions in the euro area member states and they were under supervision of the NCAs with the ECB performing an oversight role (European Central bank, 2017, 16).

Participating member state is by the definition, (a) a member state of the European Union whose currency is the euro and (b) a non-euro member state which has established a close cooperation with ECB (Council Regulation (EU) No 1024/2013 Art. 2(1)).

From the definition of the participating member state can be concluded that all nineteen euro zone member states automatically have to participate in the SSM but non-euro area member states can chose to participate in the SSM or not to participate. If the member state whose currency is not euro wish to participate in the SSM, it can establish a close cooperation between its national competent authority and the ECB.

To this date no non-euro member state established close cooperation with the ECB. Only Bulgaria and Croatia have requested the establishment of close cooperation between the ECB and its national central banks.

Table 4: The structure of the Single Supervisory Mechanism

1	The European Central Bank directly supervises significant credit institutions in the participating member states
2	National competent authority of the euro area member states supervising less significant credit institutions in its countries (Austria, Belgium, Cyprus, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Portugal, Slovakia, Slovenia, Spain)
3	National competent authority of the non-euro area member states in the close cooperation with the ECB (No non-euro member state establish close cooperation with the ECB)
4	Member states outside the Single Supervisory Mechanism which have requested the establishment of close cooperation between the ECB and its national competent authority (Bulgaria and Croatia)

Source: European Central Bank

For establishing a close cooperation, non-euro area member state has to fulfill the following conditions:
- It has to request the ECB to enter into a close cooperation at least five months before the date on which non-euro area member state intends to participate in the SSM
- It has to adopt its national legislation to allow the ECB to exercise its supervisory tasks and

- It has to provide the ECB with the information on its credit institutions which the ECB may require for the purpose of carrying out a comprehensive assessment of those credit institutions (Council Regulation (EU) No 1024/2013 Art. 7(2))

Croatia submitted a request to the ECB for the establishment of a close cooperation between the ECB and the Croatian National Bank (CNB) in May 2019. At the same time Croatia started the process of adopting its national legislation to allow the ECB to exercise its supervisory tasks to credit institutions in Croatia. In September 2019 the ECB started a comprehensive assessment of five Croatian banks (Zagrebacka banka, Privredna banka Zagreb, Erste & Steiermärkische Bank, OTP banka Hrvatska and Hrvatska postanska banka). The assessment is still in progress and the first result will be published in May 2020 (ECB, 2019, press release). Since the ECB has directly applicable powers only in the euro area, it does not have directly applicable powers in the member state whose currency is not the euro (Treaty on the Functioning of the European Union, Article 139(2)). To overcome this lack of directly applicable powers, national legislation has to be adjusted in a way which allows the ECB to exercise its supervisory tasks via national competent authority (NCA) or via national designated authority (NDA). This lack of directly applicable powers of the ECB to the credit institutions in close cooperation means that he ECB can exercise its supervisory powers in the non-euro area member state only by issuing instructions to its NCA or NDA. NCA and NDA have to abide any guidelines or requests issued by the ECB and they have to adopt any measure in relation to credit institutions requested by the ECB. Via instructions which have to be implemented, the ECB can perform its supervisory tasks in the close cooperation.

This new procedure in close cooperation in which the ECB have to issue the instruction and NCA have to follow it, makes the process of the supervision more complex than in euro area member states. In this respect the ECB cannot perform direct supervision and cannot introduce measures to the credit institutions without the NCAs. That is the reason why national legislation of the non-euro member state has to be adopted in a way to allow the NCAs to swiftly comply with the ECB's instructions.

Croatia has adopted first set of regulatory changes to allow ECB to give instructions to CNB. In that respect provisions were introduced in the Croatian Law on credit institutions to ensure that CNB will abide any guidelines or requests issued by the ECB, and will adopt any measure in relation to credit institutions requested by the ECB. The ECB may instruct CNB to impose supervisory measures to the credit institutions to grant a licence to the members of the management board, to approve a recovery plan and even to revoke the authorization. Each of those instructions CNB will have to adopt without any discretion. In its opinion the ECB welcomed those provisions in the Croatian Law on credit institutions (ECB, 2019, 5).

Before establishing the close cooperation, ECB has to carry out a comprehensive assessment of the credit institutions in the member state that requested a close cooperation. Conducting a comprehensive assessment, the ECB will test and ensure that the credit institutions are adequately capitalized, that they comply with the regulation and can withstand possible financial shocks. Through a comprehensive assessment the ECB will determine which credit institution is significant and which one is less significant. To carry out a comprehensive assessment of the credit institutions the ECB needs data and the information on those credit institutions and for that reason one of the conditions for the member state is to provide the ECB with the information on its credit institutions.

Carrying out comprehensive assessment of the credit institutions the ECB will check the financial soundness of each credit institutions and will get the picture of the entire banking system in the Member State requesting close cooperation. If the result of the comprehensive assessment would show that credit institutions do not comply with the regulation or that they need more capital or that they cannot withstand possible financial and other shocks the ECB will recommend measures to resolved those deficiencies and postpone close cooperation. Member State cannot enter into close cooperation with the ECB if the its credit institutions and its banking system is not stable and sound.

Table 5: Timeline and chronology of the process establishing close cooperation and Croatian status

	Chronology of the process establishing close cooperation	Croatia position
First step	Request to the ECB to enter into close cooperation and the ECB's acknowledgment of receipt of a request. The request has to be submitted on a prescribed template at least five months prior to its participation in the SSM. The ECB may request additional information and documents necessary for the assessment of the member state's request.	Croatia has filed the request in May 2019 and the ECB replied with the confirmation of receipt of a request.
Second step	Adoption of the national legislation to ensure that legal acts adopted by the ECB are binding and enforceable in the member state and that the instructions given by the ECB will be implemented by the NCA. The confirmation have to include a legal opinion of an independent legal expert.	Croatia has started the adoption of its national legislation and the first amendments to the Law on Credit institutions are in force. Law on Croatian National Bank is also expected to be adopted in May 2020 as well as second amendments to the Law on Credit institutions.
Third step	Comprehensive assessment of the credit institutions established in the non-euro member state wishing to participate in the SSM. Assessment will be conducted by the ECB with the NCA's support.	The ECB started the comprehensive assessment of five Croatian credit institutions in September 2019 and it is expected to be completed in May 2020.
Fourth step	ECB's assessment of the fulfillment of all criteria. The ECB will have three months upon receipt of all necessary information and documentations for the assessment of the fulfillment of all criteria. During the assessment the ECB will inform the requesting Member State of its preliminary assessment and the Member State will get the opportunity to provide its opinion and its views on the preliminary assessment of the ECB.	It is expected that the ECB will start the assessment of the Croatian request as soon as they will have the first results of the comprehensive assessment and when they receive confirmation with a legal opinion that Croatian legislation has been adopted in accordance with the SSM Regulation.
Fifth step	Adoption of the Decision by the ECB addressing the request to enter into close cooperation of the requesting member state. If the ECB concludes that the non-euro area member state fulfilled all the criteria it will adopt the Decision. I the ECB concludes that the non-euro area member state did not fulfill the criteria, it will reject the request to establish a close cooperation. The ECB will state the reasons for rejection.	It is expected that ECB will adopt a decision regarding Croatian request. All Croatian credit institutions are well capitalized and can withstand financial stress, and ECB already gave the opinion recognizing that Law on Credit institution has been amended in line with the expectations.
Sixth step	Establishing a close cooperation between non-euro area member state's competent authority and the ECB fourteen days after publication of the ECB Decision.	Authors' opinion that Croatia will be the first non-euro Member State that will establish close cooperation with the ECB and become part of the SSM.

Source: Decision of the European Central Bank of 31 January 2014 on the close cooperation with the national competent authorities of participating Member States whose currency is not the euro (ECB/2014/5)

3.2. Banking supervision in the non-euro area member states under close cooperation

Once close cooperation is established, non-euro area member state starts to participate in the SSM. Nacional competent authority of the country in the close cooperation is in a position comparable to all other NCAs of euro area member states, but there are some dissimilarities due the fact that member states in close cooperation is not in the euro area.

Similarities are that representative of the NCA will participate on the Supervisory Board of the ECB with the same rights and obligations as all other euro area members including same voting rights (SSM Regulation, 2013, Art. 26). Also the ECB will identify significant credit

institutions which will fall under its direct supervision and less significant credit institutions will remain under the direct supervision of the NCA with the ECB performing an oversight role. The ECB will establish joint supervisory teams composed of staff members from the ECB and NCA to supervise each significant credit institution.

Legal acts and the decisions of the ECB cannot be applied to a member state in close cooperation since the Treaty on the Functioning of the European Union strictly forbids acts of the ECB to be applied in the non-euro area member states. Legal acts and the decisions of the ECB can only be applied to a euro area member state. In order to overcome this legal and procedural obstacle the ECB may issue instructions in respect of significant credit institution which NCA in close cooperation has to adopt. An NCA in close cooperation with the ECB can adopt decision in respect of significant supervised credit institution only on the ECB's instructions since the ECB performs direct supervision of the significant credit institutions. Member state in the close cooperation will not have its representative in the Governing Council of the ECB. In accordance with the Treaty on the Functioning of the European Union and Statute of the ECB only governors of the national central banks of the euro area Member States can be members of the Governing Council. But there is a special procedure which allows NCA in close cooperation to present its own opinion to the Governing Council. If the NCA in close cooperation disagree with the draft decision of the Supervisory Board, the NCA may inform the Governing Council of the reasons for its disagreement. Governing Council will take the reasons of the NCA into account and decide on the matter. The NCA will be provided with the reason for the decision of the Governing Council in written. If the NCA and Member State do not agree with the decision, Member State may request the termination of the close cooperation with immediate effect. In that way the decision of the Governing Council will not be bound to the Member State. This is a quit rigid and inflexible procedure with the sever consequence of leaving close cooperation and it is unlikely that any country will opt for these procedure and leave the close cooperation.

4. Benefits and weaknesses of participating in the Single Supervisory Mechanism

4.1. The overview

So far, no EU member state has previously established close cooperation with the ECB so the Croatian and Bulgarian requests will be the first to test how it works in practice. Since November 2014, when SSM started operating, all participating member states have already joined or were close to join the euro area and the ECB took over the responsibility of supervising credit institutions in these 19 EU member states of euro area[2]. Considering the circumstances, it is not possible to compare completely the advantages or disadvantages of establishing the close cooperation, but the results of current activities during establishing the close cooperation will be presented.
Following the request of establishing close cooperation between the Croatian National Bank and the ECB, the supervision of the ECB started the comprehensive assessment of five Croatian banks[3] which is comprised of an asset quality review (AQR) and a stress test exercise. The results of the assessment are expected to be published in May 2020, but the benefits of the exercise are already obvious. By using the methodology of European Banking Authority (EBA) and AQR Manual (ECB, 2018), the process of observing these five aforementioned banks had a goal of assessing whether the risk management of banks' assets is effective and if not is there a need of strengthening capital positions. By using the methodology of EBA and ECB, the

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[2] Precisely, Lithuania joined the euro area and SSM on 1 January 2015, but the approval for the accession was determined already on 23 July 2014 and consequently Lithuanian credit institutions participated in the previous overall comprehensive assessment of 130 European banks.
[3] Under the ECB Banking Supervision in close cooperation process were included 4 most significant Croatian banks and the largest state-owned bank (ranked 6th in the system).

observed banks were in the position to adjust their business to the expectations for future oversight. In addition, the results of the exercise will show the potential capital shortfall at individual banks and consequently will provide insight into the financial soundness of individual banks. Benefits of moving banking supervision from national regulators to the Single Supervisory Mechanism should be anticipated by all credit institutions in the banking system and by the national central bank which initiated establishing close cooperation. During the transition period of establishing close cooperation, all the stakeholders should be prepared to take over the responsibility which will be fully applicable at the moment of start participating in the Single Supervisory Mechanism. In that sense, all current adjustments of relevant national legislation and of credit institutions' activities should be observed as a benefit for future financial health of the financial system and of the broader economy at all.

Although the path to introducing a single currency and creating the Economic and Monetary Union began a long time ago, the last global financial crisis has indicated that a monetary union is still too much vulnerable if there is no single supervisory approach towards regulating banking functions. Namely, before the start of the crisis, banking supervision in Europe was too much fragmented without a consistent supervisory approach to supranational credit institutions. Although several steps towards harmonizing banking regulation and converging supervisory practices have been taken even before the crisis[4], in the years after the crisis it seemed that the most efficient way to ensure safety and soundness in the financial system would be to shift the supervision of financial institutions from the national to supranational level. Starting with the De Larosière Report (De Larosière et al., 2009) which initiated the financial reform of European financial regulation, it was the first step towards transferring the responsibility of supervising cross-border banks from the national level to some common supervisory standards. Three years later (in June 2012), European Council decided to establish a banking union with three main pillars: 1) joint supervision in the form of SSM led by ECB; 2) a common resolution framework in the form of Single Resolution Mechanism (SRM) and 3) a common European Deposit Insurance Scheme (EDIS) (European Council, 2012). So far, the first two pillars have been realized: SSM launched in November 2014 and SRM started operating in January 2016, while the third pillar is still in the political negotiation phase. Since the emphasis of this paper is put on SSM, the role of SSM it should be clarified. According to the Concil Regulation (EU) No 1024/2013 the role of ECB respectively of SSM is related to the contribution to the safety and soundness of credit institutions and the stability of the financial system within the Union and each Member State (Council Regulation (EU) No 1024/2013). Actually, the need for alignment of supervisory activities exist since the appearance of global financial crisis and the important step forward was taken by the creation of banking union as a support to the monetary union which is also under the control of the ECB. The idea of establishing centralised European banking supervision can be noticed from the speech of Mario Draghi in April 2012 when he emphasized the problem of spillover effects. He emphasized financial stability as a common responsibility in a monetary union just to prevent the situation that "during good times, large banks work as European institutions, but in bad times fall on national shoulders" (Bruni, 2015). Two and half years later SSM started operating with the essential task to ensure financial stability respectively to rebuild trust in the banking system.

4.2. Benefits and weaknesses

Since the SSM operationally is established only from November 2014, there are still many papers focused on the evolution of the SSM as an advanced supervisory architecture on the EU level. Many authors have analyzed pros and cons of establishing the SSM and this paper will

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[4] e.g. Committee of European Banking Supervisors (CEBS) was established by the European Commission in 2004 by Decision 2004/5/EC; from the beginning of 2011 this committee was succeeded by the European Banking Authority (EBA) by Regulation No. 1093/2010

highlight just a few features that were specific at the time of the formation of new institution under the control of the ECB. Taking into account significant progress of the first pillar of the banking union (SSM), it can be noticed that numerous authors predominantly positively assess comprehensive assessment of banks and later the formation of the SSM. Loipersberger (2018) found that even the announcement of establishing the SSM was regarded as positive by investors in European banks. During the establishing of SSM as an institution, the confidence and perception of investors have grown and was concluded that SSM had a positive impact on stock returns in euro area countries. Even during the preparatory work and enforcement of comprehensive assessment (which consisted of supervisory risk assessment, an asset quality review and stress test of significant banks), the investors were able to detect weak banks and the disclosure of results of comprehensive assessment boosted transparency and confidence in the market (Carboni et al., 2017).

Since membership in the banking union is obligatory for the euro zone members and is on the "opt-in" basis for the rest of the member states of the EU, it is questionable what are the main benefits and incentives to join the banking union. One of the main lessons learned from the global financial crisis was to enhance the level of financial stability and return the confidence in the banking system and this was achieved by founding the SSM (Gros, Belke, 2015). Another very important incentive for transferring regulatory powers to a supranational level was the harmonization of supervisory practices which were organized diversely before establishing SSM and were of lower quality. Finally, through the participation in the joint supervisory teams (JSTs) of the SSM, national regulator is in the position of access to parent bank supervisory data and is open for cooperation with other national supervisors where parent bank has its subsidiaries. Although some of the non-euro countries still resist of entering the banking union, authors from their central banks recognize the benefits of establishing the SSM which are visible through the ECB's reputation, uniform methodology and a series of internal controls (Szombati, 2017).

On the other hand, many authors suggest that the cost-benefit analysis of participating in SSM for non-euro countries is unfavorable because there is insufficient "added value" of the SSM over the national supervisory framework (Belke et al., 2016). There is always criticism against the banking union and several objections are related to the way of functioning of the SSM in which supervisory responsibilities are shared between the national competent authorities and the ECB which sometimes hinder the level of transparency. And another important factor is related to the fact that non-euro area Member States have only limited participation in supervisory and macroprudential decision making process (Szombati, 2017).

Taking into account high level of internationalization of banking business and strong presence of foreign-owned banks in Croatian banking system which has reached up to 90% of total banking assets, Croatian National Bank, as a supervisory authority, already has strong cooperation with SSM. Croatian National Bank conducts the process of identifying other systemically important credit institutions (O-SIIs) and annually disclose the names of identified institutions (Croatian National Bank, 2019). Considering the updated list at the end of 2019, out of seven other systemically important institutions identified by the Croatian National Bank, six are in the ownership of foreign financial institutions. In general, the Croatian banking system continues to be dominated mostly by Italian and Austrian bank owners, while at the same time, the number of banks in domestic ownership decreases[5]. Thesis of the huge impact of foreign-owned banks is additionally supported by the overview of the systemic importance of these systemically important banks in Croatia and in the same time their relative unimportance in the overall operations of their parent bank (see Table 6). This is an additional reason to support the aspiration towards the banking union because of the much broader view and expertise that a supranational supervisor will possess. Practical application of joint supervision is already evident through the participation at the college of supervisors and will be strengthened through the participation in joint supervisory teams led by SSM.

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[5] At the end of 2019 only 9 banks were still in domestic ownership, out of which 2 were in state ownership.

Table 6: Market share of systemically important banks in Croatia and their share in parents' total assets, 2018

OSII in Croatian banking system	Market share in Croatia (%)	Share in parents' total assets (%)
Zagrebačka banka d.d.	27.35	1.84
Privredna banka Zagreb d.d.	20.05	1.42
Erste&Steiermärkische Bank d.d.	14.84	3.50
OTP banka Hrvatska d.d.	10.18	22.60
Raiffeisenbank Austria d.d.	7.88	3.14
Hrvatska poštanska banka d.d.	5.13	-
Addiko Bank d.d.	4.44	40.28

Source: Croatian National Bank, individual annual reports of banking groups

Given the fact of multiple involvement of Croatian banking system in the European financial flows, the decision of establishing a close cooperation between the ECB and Croatian National Bank is desirable and will foster the supervisory activities of national competent authority as well as the SSM. As a mix of centralized functions operated by SSM for significant institutions and decentralized functions carried out by the national competent authorities for less significant institutions (LSIs), the same standards are applied regarding the harmonized regulation. Equally frequent as the Croatian National Bank identifies O-SIIs for the domestic market, SSM is required to designate significant institutions within the euro area. As of February 2020, 117 credit institutions are classified as significant institutions and that list is regularly updated by the ECB. According to the SSM Framework Regulation, a bank is considered as a significant entity if any of the five conditions is met: a) size criterion, b) economic importance criterion, c) cross-border activities criterion, d) direct public financial assistance criterion and e) entity is one of the three most significant credit institutions in a participating Member State (SSM Framework Regulation, 2014). Although it is not yet published which banks will be flagged as significant, it is certain that at least the three most significant credit institutions will be under the oversight of centralized supervision of SSM. Finally, the ultimate success of the banking union will require the completion of all three pillars, respectively besides joint supervision and resolution, a common deposit insurance system will raise the attractiveness of supranational supervision and increase the incentive of joining the banking union from the other non-euro countries as well (Naether, Vollmer, 2019).

5. Conclusion

Deregulation and financial innovations before the financial crisis has changed banking business models which consequently accepted more risks, but also have become exposed to new risks. In the paper was also noticed that individual credit institutions can become systemic because of few different reasons (relationship with other institutions, international exposures to other institutions, impact across the domestic fiscal sector, significant impact on the domestic market, etc.) and in this way they could negatively effect on the development of the national economy. Apart from the above mentioned factors, benefits of these new, wider and more complex regulation processes and procedures should significantly prevent potential damages of future financial and economic crisis. Because of the primary role of the European Central Bank and of the national authorities in the supervisory processes through the activities of SSM, they should take care about the reputation, integrity and independency and have the precise distinction between monetary and supervisory activities.

Challenges for the future integration of banking and financial sector are presented in different forms of national discretions caused by specificities, long-term measures implementation, system complexity and competitiveness to global banks, increased regulatory costs, etc. The process of establishing close cooperation between the ECB and national regulator seems so simple and natural, but still requires a lot of preparation and effort. It should be once more

emphasized that still no EU member state has entered into the SSM through the close cooperation process, but were all automatically included in the SSM as members of the euro zone. It represents an opportunity and a challenge for future applicants, but also has a strong incentive for national regulators to harmonize their supervisory practices on the supranational level. Considering the high level of internationalization of banking business, it is obvious that the informal "close cooperation" between the national regulator and on the other hand ECB's supervision already exist. Taking into account the systemic importance of these foreign-owned bank for the Croatian banking system and their relative insignificant share in their parent banking groups, it is an additional support for the need of joint supervision on the supranational level. Scepticism in creating the banking union is still present by some authors because of the relative limited level of sharing responsibilities between the national competent authorities and the ECB, but is expected that the final success of the banking union will be undoubtedly evident in the course of completion of all three pillars. Thus, the process of establishing close cooperation will become more transparent for existing member states and tempting for new countries which are still not within the system of SSM.

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TOWARDS A LOW-CARBON ECONOMY AND GROWTH

ABSTRACT

Anthropogenic greenhouse gas emissions (GHG) found to be a primary cause of global warming and ongoing climate change. Historically, developed countries have contributed to the climate change problem much more than developing countries and are primarily responsible for high levels of GHG emissions (Kyoto Protocol, 2001). The Kyoto Protocol uses the term "common but differentiated responsibilities" to distinguish between developed and developing countries and their impact on climate change. In accordance with the Protocol, developed countries need to reduce GHG emissions, while developing countries only need to report their emissions. At the same time, a country's activities that generate growth are associated with an increase in carbon emissions. The challenge for developing countries is to achieve growth at any cost, without taking into account any carbon reductions. Theoretically, reducing carbon emissions in developing countries would imply slowing down growth or reducing the use of energy from fossil fuels, while increasing the use of renewables. This paper gives an overview of current theoretical and empirical findings on a low-carbon economy and growth. It deals with the idea of reducing (carbon) emissions, while increasing growth, thereby decoupling emissions from economic growth.

Key words: *low-carbon economy, low-carbon growth, energy, European Union.*

1. Introduction

The world is facing rapid changes such as globalisation, automation, and urbanisation. These changes have put a burden on natural resources and have induced ever-increasing pollution. Since 1970, carbon emissions have increased by approximately 90%, with fossil fuel combustion and industrial activities accounting for approximately 78% of the total greenhouse gas (GHG) emissions increase in the period 1970-2011 (IPCC, 2014). GHG emissions induced by fossil fuel combustion, as well as deforestation and agricultural activities, have a harmful impact on the global climate system (Betts, 2008; Stocker, 2013).

Although GHG emissions contribute to global warming, they are constantly emitted to drive economic development and growth (Jorgenson, 2014; Aye & Edoja, 2017). Economic growth improves human well-being and increases carbon emissions throughout the world (Jorgenson, 2014). At the same time, dramatic climate change requires drastic cuts in carbon emissions (Steinberger et al., 2012) by at least 50% by 2050 (Stern, 2009), and it is obvious that carbon-based growth is no longer a viable option (Baer et al., 2007). The central question is how to address the climate change problem in the context of human development and economic growth.

In 2018, global GDP, energy consumption and renewable energy grew by 3.7%, 2.9%, and 7.1%, respectively (PWC, 2019). However, energy demand growth was mostly met by fossil fuels, which induced an increase in global emissions by 2%, which has been the fastest rise in emissions since 2011 (PWC, 2019). The carbon intensity of the global economy declined by

1.6% in the same year (PWC, 2019), which is not enough to reach national goals of individual countries, let alone the global goal set out in the Paris Agreement, which followed the Kyoto Protocol.

The Kyoto Protocol was adopted in 1997 and it entered into force in 2005 as both a response to the climate change problem and the operationalisation of United Nations Framework Convention on Climate Change. It mandated that 36 industrialised nations and the European Union need to cut their GHG emissions by 5% compared to 1990 levels in the first commitment period (2008-2012). It also made a distinction between developed and developing countries as it took into account specific problems and needs of developing countries, owing to their economic development. Thereby, around 100 developing countries were exempted from the Protocol pursuant to the principle of "common but differentiated responsibilities". This principle takes into account that developed countries are mostly responsible for high levels of GHG emissions and should thus make greater efforts to reduce them. Althor et al. (2016) corroborate this principle since their findings show that 20 of the 36 highest emitting countries are the least vulnerable to negative impacts of climate change. Eleven out of the 17 countries with low or moderate GHG emissions are vulnerable to the same negative impacts. At the same time, the top ten GHG emitting countries generate more than 60% of total emissions, while China, the United States and India contribute to these emissions the most (Althor et al., 2016).

The Doha Amendment to the Kyoto Protocol refers to the second commitment period, i.e., 2013-2020. It has not been ratified yet; however, as at 6 January 2020, 136 countries notified their acceptance of the said Amendment (UNFCC, 2020). For the Amendment to enter into force, it needs to be accepted by 144 parties (i.e., three-quarters of the parties to the Kyoto Protocol). It is worth mentioning that some of the highest GHG emitters, such as the USA and Russia, have not ratified the Amendment.

In 2016, the Paris Agreement was signed and entered into force. The aim is to keep a global temperature rise this century to below 2°C above pre-industrial levels, as well as to limit the temperature increase to 1.5°C (UNFCC, 2019). The United Nations Environment Programme states that "it is clear that if the emissions gap is not closed by 2030, it is extremely unlikely that the goal of holding global warming to well below 2°C can still be reached" (UNEP, 2018, 14).

As a response to increasing pollution, concepts such as green growth and a low-carbon economy have been extensively discussed in the recent decade. Thus, the present paper aims to analyse the context and development patterns of green growth to shift towards a low-carbon economy. This is accomplished by analysing and assessing the extant literature and reports from different international organisations.

This paper is organized as follows. After the introduction section, the following section analyses transition to a low-carbon economy and economic growth oriented to sustainable development. Issues regarding the ways how to decouple carbon emissions from economic growth are presented in the third section. Conclusions are drawn in the final section.

2. Low-carbon economy and economic growth

Economic growth is found to be a regular objective of every government aimed at improving the well-being of its citizens. According to NCE (2018, 5), economic growth in the 21st century needs to be "strong, sustainable, balanced and inclusive", leading to a definition of green growth. Green growth implies "fostering economic growth and development, while ensuring that natural assets continue to provide the resources and environmental services on

which our well-being relies. To do this, it must catalyse investment and innovation which will underpin sustained growth and give rise to new economic opportunities" (OECD, 2011, 4). Green growth tries to harmonise economic growth and sustainability. It implies decoupling environmental impacts from economic growth, and means "making investment in the environment a new source of economic growth" (OECD, 2009, 1). Green growth is found to be a tool for the transition to a sustainable, i.e. low-carbon, economy (OECD, 2009).

A definition of a low-carbon economy is related to GHG emissions, stating that it is "one in which growth is achieved as a result of integrating all aspects of the economy around technologies and practices with low emissions, highly efficient energy solutions, clean and renewable energy, and green technological innovations" (Regions for Sustainable Change, 2011, 7). A low-carbon economy thus heavily relies on energy efficiency, which can be achieved through technical efficiency or behaviour change. Figure 1 shows the global benefits which could be achieved as a result of the transition to a low-carbon economy.

Figure 1: The global benefits of a low-carbon economy compared with business-as-usual

Source: NCE, 2018

According to NCE (2018), shifting towards a low-carbon economy could increase female employment and labour participation, and generate over 65 million additional low-carbon jobs. Fossil fuel subsidy reform as well as carbon pricing could generate US$2.8 trillion, which could be reinvested according to public priorities, while this new economy would contribute to higher GDP growth globally.

In its Europe 2020 Strategy, the European Commission emphasises the need to turn to a low-carbon economy. Since 2011, the Commission has launched several documents related to climate change. The goal set in the Roadmap for moving to a competitive low-carbon economy in 2050 (EC, 2011) is to reduce GHG emissions by 80% below 1990 levels. According to the Roadmap, energy efficiency is the main means aimed at achieving the target. In the Energy Roadmap 2050 (EC, 2012), energy efficiency and an increased renewable energy share were set as the means of reducing GHG emissions by 2050. In 2014, the 2030 climate and energy framework was adopted (EC, 2014), setting the targets to reduce GHG emissions by at least 40%, increase renewables by at least 27%, and improve energy efficiency by at least 27%. Energy efficiency is of significant importance in reducing

environmental damage, particularly in energy-intensive sectors as efficient technology enables more efficient use of production inputs.

Empirical research show that economic growth, i.e., activities that generate growth, induce an increase in GHG emissions. However, a report of the Global Commission on the Economy and Climate of 2014 showed that "higher quality growth can be combined with strong climate action" (NCE, 2018, 5). Steinberger et al. (2012) found that decarbonisation follows enhanced human development, but this is not the case with economic development above a certain level. The question remains whether it is possible to achieve economic growth that will reduce GHG emissions. This would surely enhance sustainability.

2.1. Moving towards a low-carbon economy and growth

Energy transition is a term used to describe the transition towards a low-carbon economy, and it is "a pathway toward transformation of the global energy sector from fossil-based to zero-carbon" (IRENA, 2020). It includes activities related to both energy efficiency and the transition to renewable energy.

The period until 2016 was promising in terms of achieving energy transition. In 2015, investments in renewables reached US$328.9 billion globally, and more than 90% came from renewable energy sources (IEA, 2016). The situation has worsened in the years that followed, with a decline in investments in renewable energy sources and energy efficiency, which could be a threat to clean energy (IEA, 2018). The trend of little or no growth in carbon emissions remained until 2017 (BP, 2018). In 2017 GDP growth was mainly supported by industry intensive sectors and coal consumption increased slightly.

The Regions for Sustainable Change (RSC) project lists 10 key activities to make a transition towards a low-carbon economy:
1. "Ensure availability of adequate and regularly updated information and data on the regions' emissions characteristics.
2. Decouple emissions and energy use from growth through multiple energy efficiency and renewable energy solutions.
3. Develop policies for energy efficiency and increase the use of renewables.
4. Develop integrated strategic and policy planning for low-carbon development.
5. Prioritise cost-effective low-carbon measures that have benefits for the climate, the economy and the social domain.
6. Establish adequate institutions with delineated responsibility and secure strong regional leadership for achieving low-carbon growth.
7. Actively involve business stakeholders, scientists, academics and the public in the decision-making process.
8. Raise awareness among the public and the business sector to encourage low-carbon consumer and production choices.
9. Use regional public investment funds as a catalyst for investing in low-carbon development by prioritising spending in stimulating the decarbonisation of the economy.
10. Regularly monitor the region's emissions performance to identify where reductions are most efficient. (RSC, 2011, 47)"

The transition to a low-carbon economy is surely one of the most significant challenges to cope with, both nationally and globally. Although commitments to reduce GHG emissions by individual countries are welcome, an international cooperation to deal with climate change problem is crucial. GHG emissions are not limited within the country borders and thereby climate change is a global issue requiring global mitigation actions. International cooperation

on climate change is essential to maintain GHG emissions and to enable the transition to a low-carbon economy. International agreement would "strengthen the climate finance flows, technology transfer and capacity-building that developing countries need to implement low-carbon strategies and adapt to climate change" (Stern & Calderon, 2014, 2). The responsibility of developed countries is to cut their emissions, and to financially and technologically support developing countries in their efforts to reduce emissions.

3. Decoupling carbon emissions from economic growth

Increasing carbon pollution has led to a phrase "to put a price on carbon", where "a carbon price gives an economic signal and polluters decide for themselves whether to discontinue their polluting activity, reduce emissions, or continue polluting and pay for it" (World Bank, 2020a). There are two types of carbon pricing (World Bank, 2020a): an emissions trading system (ETS), which captures the total level of GHG emissions while allowing low emitters to sell their extra emission allowances to the ones that have higher emissions, and a carbon tax, which sets a price on carbon such that it defines a tax rate on GHG emissions or on the carbon content of fossil fuels. Approximately US$44 billion was raised through carbon pricing in 2018 (World Bank, 2019). However, despite their existence, carbon pricing is at least questionable as 46% of all carbon prices are less than US$10/tCO2 emitted (World Bank, 2018). This is not enough to change a business-as-usual scenario and achieve less than 2°C warming until 2030. Within the framework of the Paris Agreement, a carbon price should be at least US$40/tCO2 – US$80/tCO2 by 2020 and US$50/tCO2- US$100/tCO2 by 2030 (CPLC, 2017). Less than 5% of all emissions covered under carbon pricing are priced within that range (World Bank, 2019).

Carbon intensity shows to which extent economic activity (GDP) depends on carbon emissions. It is a general rule that developed countries show lower values of carbon intensity than developing countries, as developed countries use more efficient technologies and have higher share of less-carbon intensive industries, unlike developing countries.

A PWC report (2019) calculates the Low Carbon Economy Index (LCEI, the rate of the low carbon transition) in G20 countries and compares it with national targets. Table 1 shows the connection between carbon intensity (the CO2 emissions per unit of GDP), energy-related emissions and real GDP growth in the period 2017-2018.

Table 1: Carbon intensity, energy-related emissions and real GDP growth

	Change in carbon intensity	Change in energy-related emissions 2017-2018	Real GDP growth (PPP) 2017-2018
World	-1.6%	2.0%	3.7%
G7	-1.7%	0.3%	2.1%
E7	-2.2%	3.1%	5.4%
Germany	-6.5%	-5.2%	1.4%
Mexico	-5.2%	-3.4%	2.0%
France	-4.2%	-2.6%	1.7%
Italy	-4.0%	-3.2%	0.9%
Saudi Arabia	-4.0%	-1.8%	2.2%
China	-3.9%	2.4%	6.6%
EU	-3.7%	-1.8%	2.0%
Brazil	-3.5%	-2.4%	1.1%
UK	-3.5%	-2.1%	1.4%
Japan	-3.0%	-2.3%	0.8%
Canada	-2.2%	-0.4%	1.9%
Turkey	-2.2%	0.3%	2.6%
Australia	-1.8%	0.9%	2.8%
South Korea	-0.7%	2.0%	2.7%

	Change in carbon intensity	Change in energy-related emissions 2017-2018	Real GDP growth (PPP) 2017-2018
US	-0.3%	2.5%	2.9%
Argentina	-0.1%	-2.6%	-2.5%
South Africa	0.0%	0.6%	0.6%
Indonesia	0.4%	5.6%	5.2%
India	0.7%	7.7%	7.0%
Russia	1.6%	3.9%	2.3%
Light grey - Top 5 performers; Dark grey - Bottom 5 performers			

Source: PWC, 2019

Germany leads the LCEI, with a decarbonisation rate of 6.5%. However, one should be cautious as emission reductions are partly due to weather conditions. Mexico, France, Italy and Saudi Arabia reduced their emissions and experienced economic growth. Although Mexico introduced Energy Transition Law in 2015 and made significant climate change mitigation efforts, country has taken a step back as new administration favours fossil fuel generation over renewable sources. According to the PWC report, the United Kingdom is the first state legally committed to achieving zero emissions by 2050. Once the world's highest carbon emitter, UK recorded the highest average decarbonisation rate among the G20 countries, and a 24% CO2 reduction in the period 2000-2014, while its GDP grew by 27%, resulting in a 40% carbon intensity drop. The UK has managed to decouple carbon emissions from growth due to both environmental policies and a shift from manufacturing to service-based industries (more carbon to less carbon-intensive industries, respectively). The structural transformation of the economy, technological improvements and enforcement of environmental regulations are reasons for this success (Agbugba et al., 2019).

However, a shift to service-based industries (such as finance and information technologies) implies outsourcing carbon-intensive manufacturing-based industries to less developed countries. Consequently, this outsourcing creates indirect emissions. According to Everett et al. (2010), environmental damage cannot be reduced by outsourcing manufacturing from developed to developing countries. Thus, the relationship between carbon emissions and economic growth needs to be analysed globally.

Carbon emissions included in international trade have become crucial in the measurement of global emissions (Agbugba et al., 2019), as large amount of emissions is embodied in exports from developing countries (Liu et al., 2016). For a country to be a net exporter of carbon emissions, its production-based emissions (those that occur within the country borders) should be higher than its consumption-based emissions (that are directly induced by country's households). In developed countries, consumption-based emissions are higher than production-based emissions, while in emerging markets it is the opposite way (Cohen et al., 2018).

Another evidence of decoupling carbon emissions from economic growth at the national level is given in Table 2. According to the International Energy Agency (IEA), despite global economy growth, global emissions stalled in 2014 (FT, 2015) and in 2015 (FT, 2016). Table 2 shows a list of 21 countries that achieved GHG reductions and an increase in GDP.

Table 2: Countries with a decrease in carbon emissions and an increase in GDP (2000-2014)

Country	Change in CO2 (2000-2014)	Change in GDP (2000-2014)
Austria	-3%	21%
Belgium	-12%	21%
Bulgaria	-5%	62%
Czech Republic	-14%	40%
Denmark	-30%	8%
Finland	-18%	18%
France	-19%	16%

Country	Change in CO2 (2000-2014)	Change in GDP (2000-2014)
Germany	-12%	16%
Hungary	-24%	29%
Ireland	-16%	47%
Netherlands	-8%	15%
Portugal	-23%	1%
Romania	-22%	65%
Slovakia	-22%	75%
Spain	-14%	20%
Sweden	-8%	31%
Switzerland	-10%	28%
Ukraine	-29%	49%
United Kingdom	-20%	27%
United States	-6%	28%
Uzbekistan	-2%	28%

Sources: World Resources Institute; BP Statistical Review of World Energy 2015; World Bank World Development Indicators

Table 2 shows that in the period 2000-2014, 21 countries managed to decouple economic growth from CO2 emissions growth. However, although these are examples of decoupling economic growth from carbon emissions, when looking globally, this is not the case. Namely, there is an evident coupling between GDP per capita and carbon emissions (Figure 2).

Figure 2: Correlation between real GDP per capita and CO2 emissions in the period 1960-2017
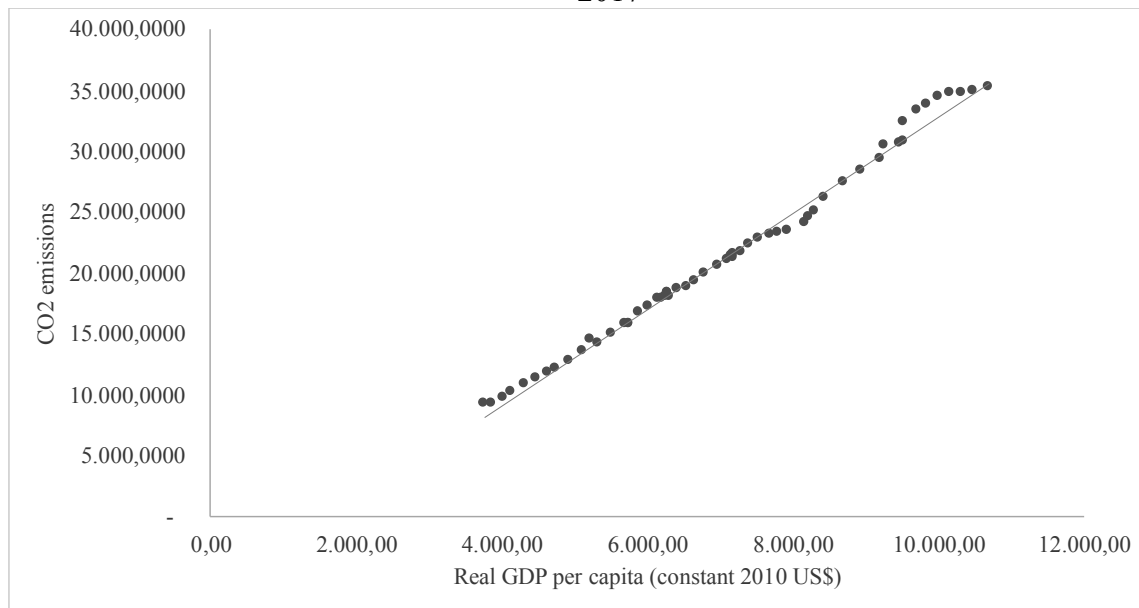
Source: The World Bank, 2020b (for GDP per capita) and World Resource Institute, 2020 (for CO2 emissions)

Figure 2 shows that correlation between carbon emissions and economic growth should be studied on a global basis, as "pollution has no production boundary and its negative effect is felt worldwide" (Agbugba et al., 2019, 18). Manufacturing-based carbon-intensive industries cannot be avoided, although they are moved to developing counties. Thus, it is of critical importance to approach climate change problem globally.

4. Conclusion

Decoupling presents an option to fight climate change while maintaining growth, which is of particular importance to developing countries. Countries that achieved GDP growth and lowered GHG emissions are the proof that it is possible to decouple economic growth from GHG emissions (at the national level). However, one should be aware that developed

countries move their manufacturing-based industries to developing countries to avoid carbon emissions.

Both developed and developing countries should pursue low-carbon growth. Benefits are related not only to climate change, but also to a lower dependence on fossil fuel imports, while new low-carbon technologies offer opportunities in terms of opening up new jobs. Energy efficiency and investing in low-carbon technologies should be of primary concern when it comes to cutting GHG emissions.

Significant emission reductions which would enable economic growth must include carbon pricing (OECD, 2009). Carbon pricing can penalise carbon-intensive industries and increase energy efficiency investments. However, this environmental policy should be carefully formulated as carbon pricing could affect countries with higher emission intensities (i.e. developing countries) much more than those with lower ones (developed countries).

Subsidies related to fossil fuel production must also be removed. Further decoupling could be achieved through investing in renewable energy sources and policies that support giving up on industries with high GHG emissions. Technological improvements combined with increasing renewable energy will lower the carbon intensity. The fact that clean energy, as well as its storage, is becoming cheaper speaks in favour of replacing fossil fuel with renewable energy sources.

The Paris Agreement is a significant step forward in the fight against the climate change problem, especially the part referring to national emission reduction. Despite different national circumstances, putting a price on pollution should be a central question in defining policy measures.

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HAS THE IMPLEMENTATION OF EXPECTED CREDIT LOSS MODEL AFFECTED ON FINANCIAL POSITION AND PERFORMANCE OF BANKING SECTOR IN CROATIA?

ABSTRACT

Expected credit loss model has been implemented in International Financial Reporting Standard 9 – Financial Instruments which started to apply in banking sector in Croatia from 01. January 2018. Since this model, in comparison to ex incurred loss model, requires the assessment of expected credit losses for debt financial instruments and their recognition in financial statements, it is expected that the implementation of expected credit loss model has a certain impact on financial position and performance of banking sector as well as on other companies with significant portion of debt financial instruments in their assets' structure. This paper aims to analyse and to compare the impairment losses recognized under ex incurred loss model with impairment losses recognized under expected credit loss model in order to identify its impact on financial position and performance in banking sector in Croatia. The data needed to conduct the research are collected from publically available bulletins of banks issued by Croatian National Bank. In order to achieve the basic aim of the paper, methods of descriptive statistical analysis are used. The initial implementation of expected credit loss model had negative effects on financial position and performance of banking sector in Croatia due to the additional recognition of loss allowances and impairment losses. The research results regarding the subsequent effects of expected credit loss model suggest that the expected credit loss model had positive impact on financial position and financial performance in banking sector in Croatia after the first year of its appliance. But this results have to be taken with caution since Croatian banks have reversed the large amounts of impairment losses in 2018 when expected credit loss model have started to apply.

Key words: *expected credit loss, financial instruments, IFRS 9, banking sector, impairment losses.*

1. Introduction

Recognition and measurement of financial instruments are the complex areas in modern financial accounting and reporting. Since 1999. International Accounting Standard Board (IASB) is trying to develop the appropriate financial reporting standard regarding the recognition and measurement of financial instruments. The initial international financial reporting standard, which established the principles for the financial reporting of financial instruments, was International Accounting Standard 39 – Financial Instruments: Recognition and Measurement (IAS 39). IAS 39 was based on incurred loss model which required the recognition of impairment losses of financial instruments in the financial statements of accounting period in which impairment loss occurred. There were also different impairment

models in IAS 39 depending on the classification of financial instrument. Incurred loss model implemented in IAS 39 was not in line with prudence principle. The appearance of financial crises, which reached its peak in 2008, revealed the deficiencies of IAS 39 and facilitated the development of new standard with improved principles for financial reporting of financial instruments.

IASB has been developing new standard for financial reporting of financial instruments since 2005 when IASB arranged the cooperation with US Financial Accounting Standards Board (FASB) regarding the long term goal of enhancing and simplifying financial instruments reporting. The new standard for financial reporting of financial instruments was International Financial Reporting Standard 9 – Financial Instruments (IFRS 9) and its completed version was issued in July 2014, although its mandatory application started on 1 January 2018. The basic purpose of IFRS 9 was to enable clearer, simplified and more appropriate approach for financial reporting of financial instruments. IFRS 9 implemented expected credit loss model instead of incurred loss model as the new impairment model for all debt financial instruments based on the complaints and arguments of different interested parties. The basic complaints and criticism regarding the incurred loss model in IAS 39 was the amount and timing of the recognition of credit losses in financial statements as well as the existence of multiple impairment models. Many preparers and users of financial statements considered that, under incurred loss model, credit losses are recognized in financial statements too late and in too little amount. However, the existence of multiple impairment model made the incurred loss model too complex and too difficult to apply. According to expected credit loss model, expected credit losses should be assessed and recognized in financial statements at the initial recognition of financial instrument. Since under expected credit loss model, credit losses are recognized before they actually occur, the application of this model has a certain impact on entity' s financial position and performance. This paper aims to identify to what extent the application of expected credit loss model affects on financial position and financial performance in banking sector in the Republic of Croatia. The purpose of this paper is to analyse has the implementation of expected credit loss model affected financial position and financial performance of banking sector in the Republic of Croatia. The research was carried out on the base of publically available financial statements of banks in Croatia for 2016, 2017 and 2018. Since the incurred loss model was applied in financial statements for 2016 and 2017, while expected credit loss was applied in financial statements for 2018, the impact of credit losses recognized under incurred loss model on financial position and performance of banking sector in Croatia in 2016 and 2017 were compare with the impact of credit losses recognized under expected credit loss model financial position and performance in 2018. In order to determine the impact of credit losses on financial position and performance of banking sector in Croatia the methods of descriptive statistical analysis were primarily used.

2. Theoretical framework and literature review

2.1. The notion and calculation of expected credit losses

Business entities are assessing and recognizing credit losses in financial statements in order to provide the fair and objective presentation of their financial position and performance to all users of financial statements. The recognition of credit losses in entity's financial statements enables to users of financial statements to evaluate and understand the effects of credit losses on financial position and financial performance of an entity. The occurrence of credit losses is the direct consequence of the deterioration of debtor's credit quality along with the increase of debtor's credit risk. Although, the increase in debtor's credit risk precedes the occurrence of credit losses, entities estimate credit losses on the base on the increase in credit risk of particular

debtor in order to evaluate the impact of credit losses on its financial position and performance (Lloyd, 2014, 1-2)

Credit losses are most commonly defined as "the difference between all contractual cash flows that are due to an entity in accordance with the contract and all the cash flows that the entity expects to receive (ie all cash shortfalls), discounted at the original effective interest rate (or credit-adjusted effective interest rate for purchased or originated credit-impaired financial assets)" (IFRS 9, 2017, A413). The estimation of cash flows for the purpose of determining credit losses is based on "all contractual terms of the financial instrument (for example, prepayment, extension, call and similar options) through the expected life of that financial instrument" as well as "cash flows from the sale of collateral held or other credit enhancements that are integral to the contractual terms" (IFRS 9, 2017, A413). Since credit losses can significantly affect on entity's financial position and performance, the key issue regarding credit losses, from the accounting point of view, is the time of recognition of credit losses in financial statements. Based on the past and present accounting practice, there are two basic models for recognizing credit losses in financial statements and these are: (a) incurred loss model and (b) expected credit loss model. Incurred loss model was implemented in IAS 39, the former international financial reporting standard for financial reporting of financial instruments. According to this model, credit losses are recognized in financial statements in the period when the objective evidence of the impairment of financial instruments occurred. Expected credit loss model is established in IFRS 9, the current international financial reporting standard for financial reporting of financial instruments. According to this model, credit losses are recognized in financial statements upon the acquirement of corresponding financial instrument and systematically allocated through the whole life-time of financial instrument (Lloyd, 2014, 1-2). Thereat, expected credit losses are defined as "the weighted average of credit losses with the respective risks of a default occurring as the weights" (IFRS 9, 2017, A414). The calculation of expected credit losses is based on three basic elements: (a) probability of default (PD); (b) exposure at default (EAD); and (c) loss given default (LGD) (KPMG, 2018, 2; Volarević and Varović, 2018, 277). Probability of default (PD) is the estimation of the likelihood of default over a given time horizon, usually one year (Gupta, 2019, 7). Basically, it is a probability that a debtor will not be able to meet its obligations in defined time horizon i.e. in forthcoming year. Probability of default can be determined in two basic ways: (a) by using probability of default rates from reliable rating agencies like Standard & Poor's, Fitch or Moody's or (b) by calculating probability of default rates with internally created model (Volarević and Varović, 2018, 269). Since only a few business entities in Croatia have externally assigned credit rating, banks and other business entities that use International Financial Reporting Standards have to create internal models for probability of default calculation. Banks in Croatia use either probability of default rates calculated by their parent entities or use own internal models based on historical data of credit losses from previous periods adjusted for forward looking macroeconomic information (KPMG, 2017, 1).

Exposure at default (EAD) is the expected outstanding balance of the financial instrument at the point of default (Deloitte, 2018, 3). It is the estimation "of an exposure at a future default date" (Gupta, 2019, 7). The estimation of exposure at default reflects "expected changes in exposure after the reporting date, including repayment of principal and interest, and expected drawdowns on committed facilities" (Gupta, 2019, 7). Exposure at default is simply the part of financial instrument's carrying amount that is exposed to credit risk (Volarević and Varović, 2018, 277). It is usually calculated by multiplying the carrying amount of financial instrument with defined conversion factor which reflects the exposure to credit risk. Conversion factors can be determined by entity's internal models or by the regulator.

Loss given default (LGD) is "the amount that would be lost in the event of a default" (Deloitte, 2018, 3). "It is based on the difference between contractual cash flows that are due and expected

to receive including from collateral. It is generally referred as a percentage of exposure at default" (Gupta, 2019, 7). Loss given default is part of carrying amount of financial instrument that will not be recovered due to debtor's default.

When these three key elements are determined, expected credit loss is calculating by the following formula (KPMG, 2019, 2; Volarević and Varović, 2018, 277):

$$ECL = PD \times EAD \times LGD$$

As it can be seen from the presented formula, expected credit loss is the product of probability of default, exposure at default and loss given default.

According to IFRS 9, expected credit losses are calculated for all debt financial instruments classified as financial assets at amortised cost and financial assets at fair value through other comprehensive income. Equity financial instruments are not subject to impairment based on expected credit loss model. IFRS 9 defines two types of expected credit losses that need to be calculated for all debt financial instruments that are subject to impairment: (a) 12 months expected credit losses and (b) lifetime expected credit losses (IFRS 9, 2017, A382 - A383). 12 months expected credit losses are "the portion of lifetime expected credit losses that represent the expected credit losses that result from default events on a financial instrument that are possible within the 12 months after the reporting date" (IFRS 9, 2017, A412). IFRS 9 requires that 12 months expected credit losses need to be calculated and recognized for debt financial instruments that are subject to impairment for which the credit risk has not increased significantly since initial recognition (IFRS 9, 2017, A383). Lifetime expected credit losses are "the expected credit losses that result from all possible default events over the expected life of a financial instrument" (IFRS 9, 2017, A415). IFRS 9 requires that lifetime expected credit losses should be calculated and recognized for debt financial instruments that are subject to impairment for which the credit risk has increased significantly since initial recognition (IFRS 9, 2017, A382).

2.2. The recognition, assessment and measurement of expected credit losses

IFRS 9 has established three approaches for the assessment and recognition of financial instrument's expected credit losses. These approaches are following: (a) general approach; (b) simplified approach and (c) approach for purchased or originated credit impaired financial assets (IFRS 9, 2017, A382-A384). General approach is applied to all debt financial instruments classified either as financial assets at amortised cost or as financial assets at fair value through other comprehensive income. Under the general approach there are three stages in expected credit losses assessment commonly known as: (a) stage 1; (b) stage 2 and (c) stage 3 (Lloyd, 2014, 2). Stage 1 refers to all debt financial instruments for which the credit risk has not increased significantly since initial recognition or the credit risk are estimated as relatively low upon the initial recognition. The loss allowance for financial instruments in stage 1 are recognized at an amount equal to 12 month expected credit losses (IFRS 9, 2017, A383). Interest revenues for financial instruments in stage 1 are calculated based on gross carrying amount without adjustment for expected credit losses (Lloyd, 2014, 2; IASB, 2014, 16). The assessment of credit risk for financial instruments in stage 1 can be conducted either on individual or collective basis of similar financial instruments (IASB, 2014, 17). Stage 2 refers to debt financial instruments for which the credit risk has increased significantly since initial recognition. The loss allowance for financial instruments in stage 2 are recognized at an amount equal to the lifetime expected credit losses (IFRS 9, 2017, A382). Interest revenues for financial instruments in stage 2 are still calculated based on gross carrying amount (Lloyd, 201, 2; IASB, 2014, 16). Furthermore, the assessment of credit risk for financial instruments in stage 2 can be

conducted either on individual or collective basis of similar financial instruments (IASB, 2014, 17). Stage 3 refers to debt financial instrument for which the credit risk has increased to the point that is considered credit-impaired (IASB, 2014, 16). For financial instruments in stage 3, there are objective evidences about the impairment. The loss allowance for financial instruments in stage 3 are still recognized at an amount equal to the lifetime expected credit losses (IFRS 9, 2017, A382), while interest revenues are calculated based on amortised cost (Lloyd, 2014, 2; IASB, 2014, 16). The assessment of credit risk and the determination of impairment loss for financial instruments in stage 3 must be conducted on individual basis (IASB, 2014, 17). Debt financial instrument within general approach can be transferred from one stage to another based on the change in credit risk.

Simplified approach of the assessment and recognition of financial instrument's expected credit losses can be applied for trade receivables, contract assets and lease receivables (IFRS 9, 2017, A384). Under simplified approach the loss allowance for trade receivables, contract assets and lease receivables are recognized at the amount equal to lifetime expected credit losses if the credit risk for those assets has increased significantly since initial recognition (IFRS 9, 2017, A384). Accounting policies for trade receivables, lease receivables and contract assets can be selected independently of each other (IFRS 9, 2017, A385).

Purchase or originated credit impaired financial assets are financial assets that are credit-impaired at initial recognition (IFRS 9, 2017, A416). For purchase or originated credit impaired financial assets only cumulative changes in lifetime expected credit losses since initial recognition are recognized as a loss allowance (IFRS 9, 2017, A384).

Loss allowance for expected credit losses are recorded in accounting records and therefore recognized in financial statements. The way the loss allowance is recorded in accounting records and recognized in financial statements depends on the category of financial assets in which the particular financial instrument is classified. Loss allowances for expected credit losses of financial assets that are measured at amortised cost are recognized in profit and loss and as a reduction of the carrying amount of financial assets in the statement of financial position. On the other hand, loss allowances for expected credit losses of financial assets that are measured at fair value through other comprehensive income are recognized in profit and loss and in other comprehensive income without the reduction of the carrying amount of financial assets in the statement of financial position (IFRS 9, 2017, A382).

2.3. Expected credit loss model Vs. incurred loss model

Expected credit loss model has been implemented in IFRS 9 in order to eliminate the weaknesses of incurred loss model that have been manifested in the time of global financial crises. The major complaints regarding the incurred loss model referred to the amount and timing of credit loss recognition in financial statements. Credit losses are, under incurred loss model, recognized in financial statements in the period when they are actually occurred i.e. when the trigger event, which was an objective evidence of impairment of particular financial instrument, occurred. Under expected credit loss model, credit losses are recognized immediately after the initial recognition of particular financial instruments. So, the basic difference between these two models is the timing of recognition of credit losses in financial statements. Users of financial statements had indicated that incurred loss model enabled the delay in the recognition of credit losses of financial instruments in financial statements and that credit losses were recognized in too small amounts. They also considered that incurred loss model "gave room to a different kind of earnings management, namely to postpone losses" (IASB, 2014, 14). This weaknesses of incurred loss model are eliminated with the implementation of expected credit loss model. The comparison of the recognition of credit

losses between incurred loss model and expected credit loss model is shown in the following table:

Table 1: The comparison of incurred loss model and expected credit loss model

Level of risk of financial instrument	Incurred loss model	Expected credit loss model
Debt financial instruments with no credit risk	Credit loss is not recognized	12 month expected credit loss is recognized
Debt financial instruments with significant increase in credit risk since initial recognition	Credit loss is not recognized	Lifetime expected credit loss is recognized
Debt financial instruments that are impaired	Lifetime credit loss is recognized	Lifetime expected credit loss is recognized

Source: author's illustration according to PWC, 2014, 2.

As it can be seen in table 1, under expected credit loss model, loss allowances related to credit risk are recognized before the actual impairment of financial assets occurred. Therefore, this model is in accordance with prudent principle since credit losses are recognized in financial statements immediately upon the acquisition of financial instrument before the actual impairment occurs. Under expected credit loss model, credit losses are measured on the base of all available relevant information that includes historical loss and current information as well as all reasonable and supportable forward-looking information (Lloyd, 2014, 1). That way, expected credit loss model should provide users of financial statement with more appropriate and timely information regarding the credit risk and credit losses associated with entity's financial instruments.

Besides the time and the amount of recognition of credit losses, the another important weakness of incurred loss model was the existence of multiple impairment models which were applied on the base of the classification of particular financial instrument. Under expected credit loss model, the single impairment model is applied to all debt financial instruments that are subject of impairment test regardless of the type and classification of instrument (Lloyd, 2014, 1).

2.4. Results of the previous relevant researches

The implementation of expected credit loss model had the aim to improve financial information regarding the entity's credit losses on financial instruments. The impact of expected credit loss model on financial statements of business entities was the matter of interest of various national regulators, academics from universities and institutes as well as global auditing firms and other stakeholders. In this section, the most relevant researches regarding the implementation of expected credit loss model and its impact on financial reporting are systemized and presented. Jorge Pallarés Sanchidrián and Carlos José Rodríguez García (2017) have explained that, from a conceptual perspective, the expected credit loss model can help to achieve a timelier and adequate estimation of credit losses "because it requires credit losses to be recognized from the origination of the transaction and the level of provisions to be increased when the credit quality of the transaction worsens but it has not defaulted" (Sanchidrián and García, 2017, 145). They have also stated that "under IFRS 9, the overall level of provisions of large EU credit institutions has increased significantly (11% on average), the level of provisions for performing exposures (mainly stage 1 and 2 assets) has almost doubled on average and the institutions with lower levels of provisions for performing exposures have increased them" (Sanchidrián and García, 2017, 159). Sanchidrián and García consider that "the expected loss model allows for greater subjectivity in its application, but this subjectivity must be understood in a positive manner so as to anticipate more accurately future credit losses, not leaving room for earnings management practices" (Sanchidrián and García, 2017, 145).

Sultanoglu (2018) has explained the measurement and the recognition of allowances for impairment under IFRS 9 and then he analysed and compared the expected possible qualitative and quantitative effects of the transition in the European Banking Industry with Turkish Banking Industry. He has concluded that "expected credit loss model application by European banks would result in on average 13%-18% increase in loss provisions and Common Equity Tier 1 (CET1) and total capital ratio decrease by on average 45-75 basis points (bps) and 35-50 bps, respectively whereas the total amount of provisions will be diminishing by 4.1% and will have 33 bps and 21 bps positive impacts on CET1 and total capital adequacy ratio on average, respectively for Turkish banks" (Sultanoglu, 2018, 476).

Volarević and Varović (2018) have proposed application of multi-criteria decision-making model based on Analytic Hierarchy Process (AHP) method for the purpose of developing an internal model for PD calculation. "Input data in the model are based on information from financial statements while MS Excel is used for calculation of such multi-criteria problem. Results of internal model are mathematically related with PD values for each analyzed company" (Volarević and Varović, 2018, 269).

Guegan and Rebreanu from Ernst&Young (2018) have conducted the survey with a quantitative analysis of the transition to ECL in terms of impact on the financial statements and Core Equity Tier 1 ratio (CET1 ratio). The survey was conducted on a sample of large banks in continental Europe, the UK and Canada. The data for the analysis are gather from publicly available 2017 annual reports, IFRS 9 transition reports and Q1 2018 quarterly reports. The results of the survey have indicated that the transition to IFRS 9 generally resulted in an increase in impairment allowances while the impacts on financial statements and CET1 ratio were, in most cases, lower than previously estimated, reflecting in part more favourable economic conditions. Furthermore, the results of the research have also shown that "allowances for credit-impaired loans remained fairly stable compared with IAS 39, which already required estimation of lifetime expected losses for these exposures while for non-impaired loans, ECL allowances are generally higher than IAS 39 collective allowances". Guegan and Rebreanu's research has revealed the majority of factors that have explained the significant differences in transition impacts between banks. Factors that have caused the differences in transition impacts were "typical drivers of changes in impairment, such as the bank size, its portfolio mix and geographical footprint" as well as "different judgements and estimates in terms of ECL methodological choices and forward-looking scenarios" and "factors not related to the ECL approach, such as reclassifications, write-off policies, and the treatment of purchased and originated credit-impaired (POCI) loans" (Guegan and Rebreanu, 2018, 1).

In November 2017 three UK regulators (the Financial Conduct Authority (FCA), the Financial Reporting Council (FRC) and the Prudential Regulatory Authority (PRA)) jointly established and sponsored a UK taskforce on disclosures about ECL. The aim of the Taskforce was "to help encourage high-quality ECL-related disclosure from implementation and to encourage those disclosures to develop subsequently in the right direction". The Taskforce recommendations regarding the ECL disclosure referred to the following the most important considerations from the Taskforce view: (a) alignment between accounting for credit losses and credit risk management activities; (b) policies and methodologies of ECL measurement; (c) forward looking information for ECL estimation; (d) movement and coverage across stages; (e) changes in the balance sheet ECL estimate; (f) credit risk profile of the financial instruments involved; (g) measurement uncertainty, future economic conditions and critical judgements and estimates; (h) the impact of ECL on regulatory capital; (i) governance and oversight of the ECL estimation process (The Taskforce on Disclosures about Expected Credit Losses, 2018, 9 – 11).

Accenture, Global Credit Data (GCD), and the Institute of International Finance (IIF) (2019) conducted the survey regarding the implementation of current expected credit loss (CECL) which assessed U.S. banks' readiness to implement the new current expected credit loss

(CECL) accounting standard issued by the Financial Accounting Standards Board (FASB) under Accounting Standard Update (ASU) 2016-132. The survey aimed to provide "insights into the challenges faced by banks across data management, model development and technology/implementation" as well as "to identify emerging trends as lenders move towards CECL compliance". The survey was carried out on the sample of twenty-six banks representing over three quarters of the U.S. lending market (Accenture, Global Credit Data, and the Institute of International Finance, 2019, 1). Generally, the results of the survey have shown progress towards CECL implementation choices but less progress in actual implementation (Accenture, Global Credit Data, and the Institute of International Finance, 2019, 3 - 4).

European Systemic Risk Board (ESRB) (2019) have prepared a report in which the differences between expected credit loss approaches in Europe and USA are identify and analysed from a financial stability perspective. The objective of ESRB's report was to raise awareness of the potential consequences, from a financial stability perspective, of the fundamental differences between IASB's expected credit loss model (ECL) in IFRS 9 and FASB's current expected credit loss (CECL) in Accounting Standards Codification (ASC) 326, given that this could affect the way that banks provide credit to the real economy, manage their credit risk and compete in global markets, with the potential to bring about unintended consequences (ESRD, 2019, 3). ESRB have identified four key differences between ECL and CECL: (a) "the ECL approach in IFRS 9 more accurately reflects the evolution of credit risk, limiting the double-counting of expected credit losses already priced in at the time of the initial recognition of a loan" while the CECL approach "could be regarded as facilitating practical implementation by reporting entities, even if that increases the double-counting of expected credit losses at the time of loans' inception"; (b) "the CECL approach may lead to higher impairment charges in normal times, while the ECL approach would have a larger impact at the time of the onset of a crisis (to the extent that the downturn is not anticipated well in advance)"; (c) "the application of a lifetime expected credit loss approach to European banks could in principle be regarded as sounder, proper consideration should be given to its potential implications for the real economy in the long term, given the decisive role that bank lending plays for households and non-financial corporations in Europe" and (d) "the analysis of the cyclical behaviour of the two approaches would tend to signal a relative advantage for EU banks, since they would face lower impairment requirements from their lending in good times" (ESRB, 2019, 3 − 4). ESRB considers that "a timelier recognition of credit losses, combined with envisaged improvements to banks' credit risk management, is expected to make a significant contribution to financial stability" (ESRB, 2019, 4).

Croatian National Bank (2018) has identified and presented the initial impact of applying IFRS 9 and expected credit loss model from IFRS 9 on capital of credit institutions in Croatia. According to Croatian National Bank's data, Croatian banks have recorded an additional loss of 1,4 milliard kunas due to the IFRS 9 application, out of 1,3 milliard kunas were the effect of applying expected credit loss model. The effects of IFRS 9 application are systemized presented in the following table:

Table 2: The impact of IFRS 9 on capital in credit institutions and banks in Croatia (in 000 kn)

The description of the effect	Credit institutions	Banks
The impairment of financial instruments that are subject to impairment test	-1.293.517	-1.277.233
Analysis of impairment losses according to stages Stage 1 Stage 2	 404.969 −1.392.139	 406.709 −1.387.002

The description of the effect	Credit institutions	Banks
Stage 3	−306.347	−296.941
Loss allowances for off-balance sheet items	24.447	24.508
Stage 1	215.241	215.217
Stage 2	−121.328	−121.243
Stage 3	−69.466	−69.466
The change in fair value of financial assets at fair value through profit and loss	-217.000	-217.000
Other effects	12.871	12.878
Total effects of IFRS 9 on retained earnings	−1.473.199	−1.456.848

Source: Croatian National Bank, 2018, 4.

The total loss of 1.4 milliard kunas resulting from initial IFRS 9 application in credit institutions in Croatia represented 0,3% of total assets of credit institutions on December, 31 2017 and 35,2% of total profit before tax of credit institutions earned in 2017. The overall initial effect of IFRS 9 application in credit institutions in Croatian was negative, mainly due to additional impairment losses of financial instruments that were subject to the calculation and recognition of expected credit losses (Croatian National Bank, 2018, 4).

3. Research methodology

The purpose of this paper is to identify to what extent the expected credit loss model has affected on financial position and performance of banking sector in Croatia in comparison to incurred loss model after the first year of its appliance. For the purpose of achieving the objectives of the paper, the data about impairment losses, loss allowances, total assets and profit before taxes of banking sector in Croatia are gathered from publically available bulletins issued by Croatian National Bank. The data were collected for 2016, 2017 and 2018, out of in 2016 and 2017 the incurred loss model have been applied for determining the loss allowances and impairment losses, while in 2018 loss allowances and impairment losses were determined using the expected credit loss model. The data are processed and analysed by methods of descriptive statistical analysis. For the purpose of determining the impact of expected credit loss model on financial position of banking sector in Croatia after the first year of its appliance, the relation between impairment losses (and loss allowances) and total assets (impairment loss and total assets ratio) is calculated for 2016, 2017 and 2018. The relations between impairment losses and total assets in 2016 and 2017 are compared to the relation in 2018. The impact of expected credit loss model on financial performance of banking sector in Croatia after the first year of its appliance is determined by identifying the relation between impairment losses and profit before tax (impairment loss and profit ratio) for 2016, 2017 and 2018. The relations between impairment losses and profit before tax in 2016 and 2017 are compared to the relation in 2018. Research was carried out on the population which consists of all banks that was operated in Croatia in the period from 2016 to 2018. The basic limitation of this research is a small data set. Results of this research should be taken as preliminary since assessments and conclusion about the significance of the impact of the expected credit loss model on financial position and performance of banking sector in Croatia based on this results is not possible to make. Concrete, more reliable results will be achieved after longer period of applying expected credit loss model. So far, credit loss model is applied in 2018 only, so this results represents the current impact of expected credit loss model on financial position and performance of banking sector in Croatia.

4. Research results

Croatian National Bank has identified that the initial implementation of expected credit loss model from IFRS 9 resulted in additional recognition of impairment losses and loss allowances at the amount of 1,3 milliard kunas in Croatian banking sector. The effects of initial recognition were recognized at the beginning of 2018. The additional recognized impairment losses and loss allowances due to initial implementation of expected credit loss model represented around 0,3% of total assets and 35,2% of total profit before tax of banking sector in Croatia. Therefore, the initial implementation of expected credit loss model had the more effect on financial performance then on financial position of banking sector in Croatia. This paper provides the descriptive statistical analysis of impairment losses and loss allowances along with the analysis of impairment losses and total assets ratio and impairment losses and profit before tax ratio in banking sector in Croatia in 2016, 2017 and 2018. The impairment losses and loss allowances from financial assets recognized in financial statements of Croatian banks in 2016, 2017 and 2018 are presented in graph 1.

Figure 1: Impairment losses and loss allowances recognized in banking sector in Croatia from 2016 to 2018 (in 000 000 kn)
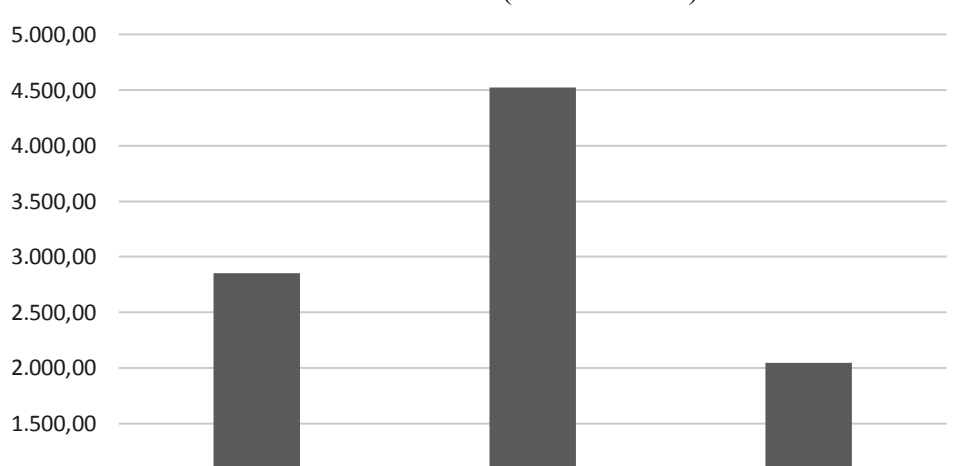
Source: Author according to Croatian National Bank, 2017, 2018, and 2019

In 2016 and 2017, when incurred loss model had been applied, impairment losses and loss allowances recognized in Croatian banking sector had increased from 2,85 milliard kunas to 4,53 milliard kunas. The increase was mainly the result of the default of major Croatian concern to which Croatian banks had significant exposures. In 2018, when expected credit loss model started to apply, impairment losses and loss allowances recognized have decreased to 2,05 milliard kunas. According to this figures, after the first year of its appliance, expected credit loss model generally resulted in the decrease of recognized impairment losses and loss allowances in Croatian banks. But, this figures have to be taken with caution, since in 2018 Croatian banks have reversed the impairment losses related to the default of major Croatian concern due to its financial restructuring.

The more detailed analysis of impairment losses and loss allowances movement in Croatian banks from 2016 to 2018 has provided by the methods of descriptive statistical analysis presented in table 3.

Table 3: Descriptive statistical analysis of impairment losses and loss allowances in Croatian banking sector from 2016 to 2018 (in 000 kn)

Descriptive statistics		Impairment losses and Loss allowances in 2016	Impairment losses and Loss allowances in 2017	Impairment losses and Loss allowances in 2018	Valid N (listwise)
N	Statistic	26	24	23	21
Range	Statistic	732.828,00	1.332.608,00	511.618,00	
Minimum	Statistic	650,00	-18.013,00	0,00	
Maximum	Statistic	733.478,00	1.314.595,00	511.618,00	
Sum	Statistic	2.854.855,00	4.528.773,00	1.648.656,00	
Mean	Statistic	109.802,12	188.698,88	71.680,70	
	Std. Error	31.298,18	61.232,96	28.240,37	
Std. Deviation	Statistic	159.590,04	299.979,00	135.436,08	
Variance	Statistic	25.468.981.971,23	89.987.399.063,33	18.342.930.805,77	
Skewness	Statistic	2,74	2,58	2,42	
	Std. Error	0,46	0,47	0,48	
Kurtosis	Statistic	9,08	8,11	5,32	
	Std. Error	0,89	0,92	0,94	

Source: Author according to Croatian National Bank, 2017, 2018, and 2019

Since there is a large range of data and normal distribution cannot be assumed, the results of descriptive statistical analysis are considered as preliminary and represent an initial indication of the effects of expected credit loss model on financial position and performance of Croatian banks after the first year of its appliance. Based on this results, the assessments and conclusions about the significance is not possible to make. The results of descriptive statistical analysis of impairment losses and loss allowances recognized in Croatian banks from 2016 to 2018 show the decrease in 2018, when expected credit loss model have applied, in comparison to 2016 and 2017, when incurred loss model have been applying. The distribution of impairment losses and loss allowances is positively asymmetric and is more peaked than normal distribution in all years.

The results of descriptive statistical analysis of impairment loss and total assets ratio in Croatian banks in the period from 2016 to 2018 are presented in table 4.

Table 4: Descriptive statistical analysis of impairment losses and total assets ratio in Croatian banking sector from 2016 to 2018

Descriptive statistics		Impairment loss Assets ratio in 2016	Impairment loss Assets ratio in 2017	Impairment loss Assets ratio in 2018	Valid N (listwise)
N	Statistic	26	24	21	19
Range	Statistic	0,1755	0,0571	0,0138	

Descriptive statistics		Impairment loss Assets ratio in 2016	Impairment loss Assets ratio in 2017	Impairment loss Assets ratio in 2018	Valid N (listwise)
Minimum	Statistic	0,0029	-0,0158	0,0000	
Maximum	Statistic	0,1784	0,0413	0,0138	
Mean	Statistic	0,0225	0,0134	0,0050	
	Std. Error	0,0073	0,0022	0,0009	
Std. Deviation	Statistic	0,0374	0,0110	0,0040	
Variance	Statistic	0,0014	0,0001	0,0000	
Skewness	Statistic	3,3289	0,2281	0,6687	
	Std. Error	0,4556	0,4723	0,5012	
Kurtosis	Statistic	12,3843	2,6820	-0,2227	
	Std. Error	0,8865	0,9178	0,9719	

Source: Author according to Croatian National Bank, 2017, 2018, and 2019

The results of descriptive statistical analysis of impairment loss and total assets ratio in Croatian banks from 2016 to 2018 show the decrease of ratio in 2018 in comparison to 2016 and to 2017. The distribution of impairment loss and total assets ratio is positively asymmetric in 2016 and relatively symmetric in 2017 and 2018. In 2016 impairment loss and total assets ratio circulated from 0,29% to 17,84% with mean of 2,25% and standard deviation of 3,74%. This results indicated great dispersion of ratio in Croatian banking sector in 2016. In 2017 impairment loss and total assets ratio circulated from -1,58% to 4,13% with mean of 1,34% and standard deviation of 1,10%. The distribution of impairment loss and total assets ratio in 2017 is much less dispersed in comparison to 2016. Besides, average impairment loss and total assets ratio in 2017 is less than average ratio in 2016 and so does standard deviation. In 2018, impairment loss and total assets ratio circulated from 0% to 1,38% with mean of 0,5% and standard deviation of 0,09%. The distribution of impairment loss and total assets ratio is the least dispersed in 2018 in comparison to 2016 and 2017. Besides, average impairment loss and total assets ratio and standard deviation in 2018 are less in comparison to 2016 and 2017 (average ratio of 2,25% in 2016 and 4,13% in 2017 has decreased to 0,5% in 2018). The results of descriptive statistical analysis of impairment loss and total assets ratio indicate that the expected credit loss model contributed to the decrease in the share of impairment losses and loss allowances in total assets of banking sector in Croatia after the first year of its appliance.

The results of descriptive statistical analysis impairment loss and profit before tax ratio in banking sector in Croatia are presented in table 5.

Table 5: Descriptive statistical analysis of impairment losses and profit before tax ratio in Croatian banking sector from 2016 to 2018

Descriptive statistics		Impairment loss and profit before tax ratio in 2016	Impairment loss and profit before tax ratio in 2017	Impairment loss and profit before tax ratio in 2018	Valid N (listwise)
N	Statistic	25	24	23	20
Range	Statistic	17,6801	35,2104	12,6252	
Minimum	Statistic	-9,6497	-5,8754	-1,2493	
Maximum	Statistic	8,0304	29,3350	11,3759	
Sum	Statistic	-5,5206	56,3036	20,9189	

Descriptive statistics		Impairment loss and profit before tax ratio in 2016	Impairment loss and profit before tax ratio in 2017	Impairment loss and profit before tax ratio in 2018	Valid N (listwise)
Mean	Statistic	-0,2208	2,3460	0,9095	
	Std. Error	0,6584	1,4369	0,5033	
Std. Deviation	Statistic	3,2920	7,0393	2,4139	
Variance	Statistic	10,8372	49,5521	5,8269	
Skewness	Statistic	-0,8010	2,9221	3,9998	
	Std. Error	0,4637	0,4723	0,4813	
Kurtosis	Statistic	3,4131	9,7993	17,7250	
	Std. Error	0,9017	0,9178	0,9348	

Source: Author according to Croatian National Bank, 2017, 2018, and 2019

The results of descriptive statistical analysis of impairment loss and profit before tax ratio in Croatian banks indicate the decrease in ratio in 2018 in comparison to 2017. The distribution of impairment loss and profit before tax ratio is less dispersed in 2018 in comparison to 2016 and 2017 while it is positively asymmetric in 2017 and 2018 and negatively asymmetric in 2016. In 2016 ratio has circulated from -964,97% to 803,04% with mean of -22,08% and standard deviation of 65,84%. In 2017 impairment loss and profit before tax ratio has circulated from -587,54% to 2.933,50% with mean of 234,60% and standard deviation of 703,93%. This results indicate the great dispersion of the distribution of impairment loss and profit before tax ratio in 2017. In 2018 the ratio was circulated from -124,93% to 1.137,59% with mean of 90,95% and standard deviation of 241,39%. The results of descriptive statistical analysis indicate that the implementation of expected credit loss model had relatively positive effect on financial performance of banking sector in Croatia after the first year of its appliance. But this results have to be taken with caution since banks have reversed the large amount of previously recognized impairment losses in 2018.

5. Conclusion

Expected credit loss model has been implemented in order to improve the financial reporting of financial instrument since last financial crises revealed the great deficiencies of incurred loss model that were mainly referred to the time and the amount of credit losses recognition. Under incurred loss model credit losses have been recognized only if there were objective evidence about the impairment of financial instrument. Under expected credit loss model, credit losses are recognized immediately after the initial recognition of financial instrument and is, therefore, in line with prudence principle.

The purpose of this paper is to identify to what extent the implementation of expected credit loss model affected on financial position and performance in banking sector in Croatia after the first year of its appliance. According to Croatian National Bank's analysis, the initial effects of implementing expected credit loss model on financial position and performance of Croatian banks was negative since it resulted in additional recognition of impairment losses and loss allowances at the amount of 1,3 milliard kunas which represented around 0,3% of total assets and 35,2% of total profit before tax of banking sector in Croatia. This paper provides descriptive statistical analysis of impairment losses and loss allowances recognized under incurred loss model in 2016 and 2017 and those recognized under expected credit loss model in 2018 along with corresponding impairment losses and total assets ratio and impairment losses and profit

before tax ratio. Research results have indicated that the implementation of expected credit loss model had positive impact on financial position and financial performance in banking sector in Croatia after the first year of its appliance.

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COUPLES, GENDER AND INEQUALITY: THE CASE OF CROATIA

ABSTRACT

Income inequality, a topic of high interest, is usually assessed on household level. This paper contributes to a better understanding of the redistributive effects of the overall tax – benefit system with an analysis of households on an individual level, within couples.

The aim of this paper is to explore the effects of the Croatian system of taxes and benefits on income inequality within couples. The analysis relates to working age couples (with and without children) and is based on data from the EU SILC survey, the microsimulation model EUROMOD being used. The analysis is based on who contributes more to income within the household, i.e. female or male and to what extent the tax-benefit policies overall and by groups mitigate (or aggravate) inequalities between partners. Differences between the pre-fiscal and the post-fiscal income shares of the partners in total household income are compared. If a post-fiscal difference between income shares is lower than the pre-fiscal, then the tax-benefit system has a positive income redistribution. The measure of this impact is the difference between the post-fiscal and pre-fiscal income share of the partner with the lower income, which is expected to be positive to reflect a positive redistribution.

The results reveal that the Croatian tax-benefit system proves to have, in general, a positive relative income redistribution, with the strongest effect on households with lower incomes. Of the components of the tax-benefit system, social benefits are the most redistributive. From the gender perspective, the redistribution is larger for male breadwinner couples than it is for female breadwinner couples.

***Key words**: intra-household inequality, gender, microsimulations, tax-benefit system, EUROMOD.*

1. Introduction

Inequality is usually assessed at household level, which assumes equal sharing of common resources. However, such an assumption can lead to biases and wrong conclusions at individual levels (Avram, Popova and Rastrigina, 2016; Ponthieux and Meurs, 2015). Women have an important caring role, which means that a significant amount of their time is devoted to unpaid work. In addition, maternity leave often slows down career advancement. However, the difference in income between men and women can, to a certain extent, be decreased with tax-benefit policies.

Previous research (Figari et al. 2011; Avram, Popova and Rastrigina, 2016) for various EU countries proved that tax-benefit policies can have different impacts on income with respect both to gender and to household type. Fink et al. (2019) emphasize how the design of income tax schedules, joint and individual taxation, and child benefits or child tax deductions "have non-negligible effects on income distribution as well as work incentives in general and

particularly from a gender perspective". The issue of gender (in)equality is a fruitful topic of research and Colombino and Narazani (2013) explored what would be best for women: gender-based taxation (i.e. what if women had lower marginal tax rates?), wage subsidies or basic income. While gender-based taxation has success in increasing both the employment of women and their income, it has many drawbacks.

It is estimated that on January 1ˢᵗ 2019 the population of Croatia was 4,076,246, 51.6% consisted of women (Eurostat, 2020a). However, if the labour force is in question, women compose less than half, and dominantly work in less rewarding sectors such as government, education or service activities (CBS, 2019). While in some sectors, such as construction and mining. women tend to have higher wages than men, women's gross hourly earnings were 10.5% below those of men, in Croatia in 2018 (Eurostat, 2020b). This relatively low unadjusted wage gap might increase if it were adjusted for education (Nestić, 2010). Women's wages are lower than men's and their unemployment rate is higher, which is reflected in higher at-risk-of-poverty rate for women than for men (CBS, 2019).

This paper aims to explore the effect of Croatian taxes and benefits on inequality within couples and in that way contribute to the previous research of inequality in Croatia. Section 2 explains the methods used for the research and relevant assumptions and definitions. Section 3 presents the results of the research, while section 4 summarises and concludes the analysis.

2. Data, methods, assumptions and definitions

Data from the European Union Statistics on Income and Living Conditions (EU-SILC), which are based on the Croatian Income and Living Conditions Survey (*Anketa o dohotku stanovništva*, ADS) of the Croatian Bureau of Statistics conducted in 2017, are used in the analysis. The dataset comprises 20,069 individuals from 7,842 households. The income reference period of the dataset is 2016. Calculations are done using 2019 policy rules, valid on 30 June 2019. To account for fluctuations in the economy between 2016 and 2019, monetary amounts in the data have been adjusted using uprating factors to better reflect the year of the analysis, but changes in population characteristics are not reflected (for more details see Urban, Bezeredi and Pezer, 2019).

The microsimulation model EUROMOD is used for the analysis. Microsimulation models simulate taxes, social insurance contributions and benefits on individual and household levels. Such models are an irreplaceable tool for the evaluation of public policies and their impact on poverty, income inequality, work incentives as well as budget revenues and costs. EUROMOD is an open-access microsimulation model for the entire EU (Sutherland and Figari, 2013). The Croatian module of EUROMOD is maintained in cooperation with the Institute of Public Finance in Zagreb and the Institute for Social and Economic Research of the University of Essex.

The methodology of the research resembles that proposed by Figari et al. (2011). The analysis is done for working age couples, with and without children, where partners are defined as follows: living in the same household, aged between 18 and 63, not receiving old age pension, with zero or positive pre-fiscal incomes. Households in which additional adults are present, defined as older than 25, or older than 16 with earnings, are removed from the sample. This narrows the original sample to 1,638 households (21% of the original sample) and 3,276 individuals (16% of the original sample).

Pre-fiscal and post-fiscal incomes of partners are compared. Pre-fiscal incomes are market incomes of a person or a household (employment income, self-employment income, income from contractual work, property and investment income) plus private transfers and (private, disability and survivor) pensions, reduced by maintenance payments.[1] Post-fiscal (or disposable) income is the sum of pre-fiscal income and social benefits, reduced by tax obligations (personal income tax and property tax[2]) and social insurance contributions.

While some income components are related to individual earnings (e.g. social insurance contributions), others are related to the income of the household (e.g. child benefit). Income component allocation among partners is based on the following assumptions:
- Pre-fiscal incomes, with the personal income tax[3] and social insurance contributions related to them, are allocated to the partner who obtains the income,
- Non-means-tested benefits, which have a function of replacement income (i.e. unemployment benefit, maternity and parental leave benefits, sickness benefits, disability benefits and similar) are allocated to the partner who receives them,
- Means-tested benefits, which support families or children, i.e. social assistance benefits and child benefit, are split equally between the partners. Property taxes are also split equally between partners.

The analysis takes into account which partner, male or female, contributes more to the couple's income: if a female partner has a higher pre-fiscal income than the male partner, this household is a female breadwinner household; if a male partner contributes more or equal to the pre-fiscal income as the female partner than it is a male breadwinner household. Similar rule applies to the definition of the lower-contributing partner in a household, whose income share in the couple's pre-fiscal income is lower than 50%.[4]

To quantify the redistributive effect of the tax-benefit system, differences between pre- and post-fiscal income shares of the partners in the household income are compared. If a post-fiscal difference between income shares is lower than the pre-fiscal, then the tax-benefit system has a positive income redistribution. The measure of this impact is the difference between the post-fiscal and pre-fiscal income share of the partner with lower income (Figari et al., 2011), which is expected to be positive. In addition to the analysis of the overall tax-benefit system, the effect of its components, policy groups, is also explored.

Following the approach of Figari et al. (2011) additional income concepts have been used to explore the effect of policy groups. The following income concepts are used in the analysis:
  (1) Pre-fiscal incomes,
  (2) Pre-fiscal incomes (income concept 1) + non-means-tested benefits,
  (3) Income concept 2 + means-tested benefits,
  (4) Income concept 3 – social insurance contributions,
  (5) Income concept 4 – taxes.

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[1] Property and investment income, and private transfers are equally shared among partners.
[2] Property tax includes taxes such as Tax on vacation houses (Porez na kuće za odmor), Tax on road motor vehicles (Porez na cestovna motorna vozila) and Tax on vessels (Porez na plovila).
[3] Tax allowance for dependent children is split among partners to minimise the household's personal income tax payment in the following options: 0:100, 25:75 or 50:50.
[4] If both partners contribute equally to the couple's income, then the lower contributing partner is the younger one, following the approach of Avram, Popova and Rastrigina (2016). If such partners share the same year and month of birth, the one with higher id is identified as the lower contributor.

Income concept 5 is equal to the post-fiscal income. The lower income partner's shares were compared in the following way: to calculate the effect of non-means tested benefits, shares between income concepts 1 and 2 were compared; to capture the effects of means-tested benefits, the income shares of concepts 2 and 3 were compared; for the effect of social insurance contributions, the shares in income concepts 3 and 4 were compared, and the redistributive effect of taxes is equal to the difference between post-fiscal income (5) and income concept 4.

The analyses have been performed for quintile groups and mean values are displayed. Data analysis was done with Stata IC 16.0.

3. Results

3.1. Descriptive statistics

Weighted sample accounts for the 716,349 individuals in the population. Table 1 summarises the characteristics of the sample.

Table 1: Descriptive statistics of the weighted sample of couples, 2019

Variable	Mean	Std. Dev.	Median
Age (years)	41.9	8.7	41.0
Pre-fiscal income (HRK)	6,948.5	6,623.8	6,182.7
Post-fiscal income (HRK)	5,414.5	4,194.2	5,003.3
Highest education	Secondary: 62.69%	Tertiary: 25.65%	
Civil status	Married: 95.78%	Other: 4.22%	
Division of pre-fiscal income contribution in couples:			
Male partner only:	20.1%	*Both partners:*	74.1%
Female partner only:	3.5%	*Neither partner:*	2.3%

Source: author's calculation

The average age of partners is 42 years and mean pre-fiscal income is HRK 6,948.5, which is 28% higher than the average post-fiscal income. Since the sample consists of working-age couples, there is a relatively strong effect of taxation in the difference between pre-fiscal and post-fiscal incomes. Highest education obtained, on average, is secondary education. There is a small proportion (12%) of lower educated individuals in the sample. 96% of the individuals are married, 4% are single, while fewer than 1% are divorced or widowed.

In majority of the couples both partners contribute to the pre-fiscal income (74.1%), while in only 2.3% of couples does neither of the partners have any income. In 3.5% of the couples, the female partner is the only contributor, in contrast to 20.1% of couples where male partners are the only contributors. There are only 27.2% couples (457 observations in the analysed sample) in which women contribute more than men (i.e. female breadwinner couples).

3.2. Redistributive effects within couples

This subsection presents the results of the analysis of the redistributive effects of the Croatian tax-benefit system within couples. It shows the effects of the tax-benefit system on the differences in income between partners.

Figure 1: Redistributive effect of the tax -benefit system in couples by gender in Croatia, 2019
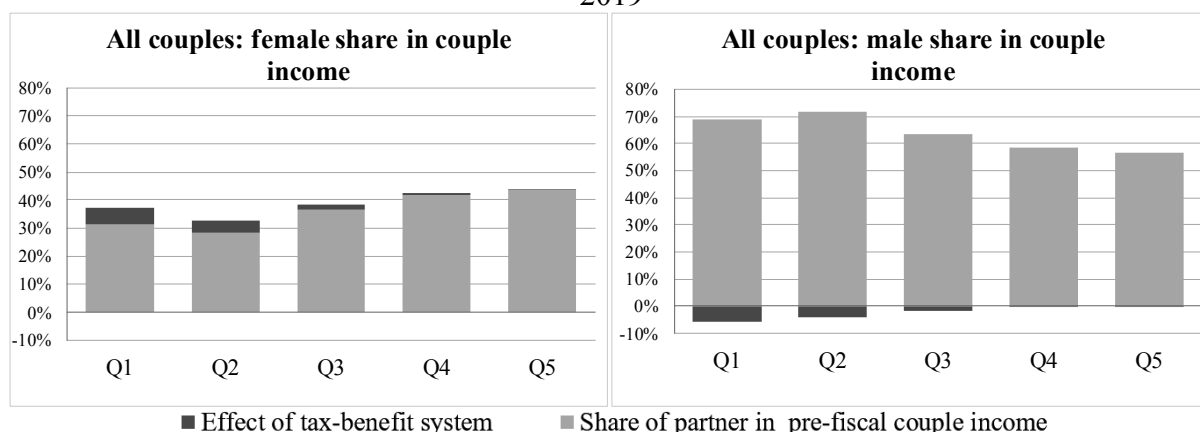
■ Effect of tax-benefit system   ■ Share of partner in pre-fiscal couple income

Note: Quintile groups have been formed according to the pre-fiscal income of the couples in the sample. Stacked sum is equal to the post-fiscal income share. Effect of the tax-benefit system refers to the difference in income shares of the gender in question.
Source: author's calculation

Figure 1 shows an analysis of income shares and redistributive effects of the tax-benefit system according to gender. In all couples, female and male income shares are compared. The average female pre-fiscal income share is 36%, while the average male share is 64%. Analysis by quintile groups reveals a mild convergence of pre-fiscal couple income shares of both genders with rising income, i.e. male pre-fiscal income shares decrease, while female income shares increase. There is a lower difference in incomes between men and women in higher income quintile groups. In addition to the already mild equalising properties of the market, the tax-benefit system contributes to the greater equalisation, if post-fiscal income shares are compared. There is a noticeable positive effect of the tax-benefit system across all quintile groups for females (in total, on average 3 p.p.). And there is an overall noticeable negative effect on male income (-3 p.p.). However, the relative effect of the tax-benefit system on income inequality between partners decreases with income.

Figure 2 depicts the results of calculations for lower contributors of all couples in the sample. It shows the distribution of the income share of the lower contributing partner in the total couple income. On average, in all couples, the lower income partner contributes 27% of the couple pre-fiscal income. A closer look by quintile groups demonstrates how the share of the lower contributor increases with pre-fiscal income: ranging from 15% in the first quintile to 37% in the fifth quintile. However, the share of the lower contributor increases when post-fiscal incomes are compared, due to benefits and taxes.[5] On average, the share of the lower contributor increases by 4 p.p. This increase is the measure of the redistributive net effect of the tax-benefit system, following the approach of Figari et al. (2011). A closer investigation of quintile groups reveals how this effect is highest in the first quintile group, increasing the share of the lower income partner by 9 p.p., from 15% to 24%. The redistributive effect reduces with increase of incomes, diminishing in the fifth quintile. The effect of the overall tax-benefit system is decomposed in subsection 3.3 according to policy groups.

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[5] "Taxes" refers to both taxes and social insurance contributions.

Figure 2: Redistributive effect of the tax-benefit system in Croatia, 2019
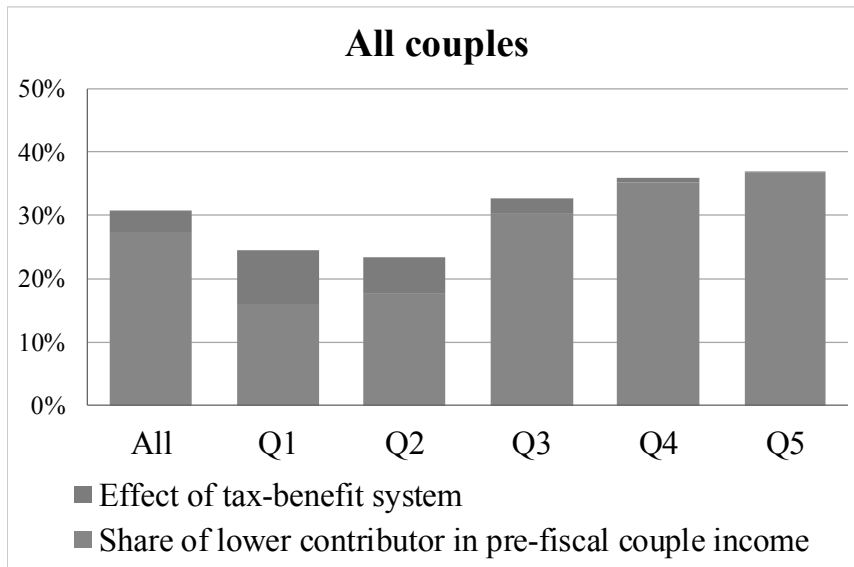
Note: Quintile groups are formed according to the pre-fiscal income of the couples in the sample. Stacked sum is equal to the post-fiscal income share of lower contributor.
Source: author's calculation

The same analysis was also done for couples according to who contributes more to the couple pre-fiscal income, male or female partner. The analysis is shown in Figure 3. On average, lower income males have a higher income share (33%) than lower contributing females (25%) in couple pre-fiscal income, which follows the analysis presented in Figure 1. On average, the Croatian tax-benefit system is somewhat less redistributive if men are lower contributors (by 2 p.p.) than in the case of couples with female lower contributors (4 p.p.). Such a result is the consequence of overall lower female incomes. The analysis confirms the finding that income shares of partners equalise with increased incomes and that the tax-benefit system reduces the income differences between men and women, but with a stronger effect in male breadwinner couples.

Figure 3: Redistributive effect of the tax-benefit system in female (27.2%) and male (72.8%) breadwinner couples in Croatia, 2019
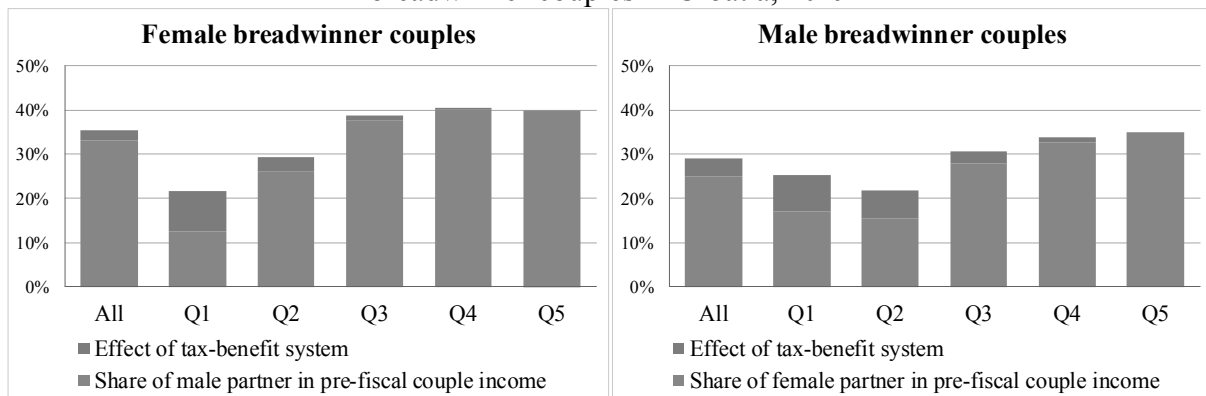
Note: Quintile groups have been formed according to the pre-fiscal income of the couples in the sample. Stacked sum is equal to the post-fiscal income share of lower contributor.
Source: author's calculation

3.3. Decomposition of the redistributive effect of the tax-benefit policies

The redistributive net effect of the tax-benefit system is decomposed by groups of policies in Figure 4. The analysis for all couples, as well as in female breadwinner and male breadwinner couples, shows that non-means-tested benefits have the highest redistributive role. Their effect is strongest in lower income couples. Such benefits, which include unemployment benefits, and maternity and parental benefits, are generous. However, there are gender differences: the effect of these benefits is stronger in male breadwinner couples. Such a difference could be attributed to the more significant role played by parental benefits for women and the slightly higher female unemployment rate.

Means-tested benefits are the second most relevant policy group overall, increasing income shares of the lower contributing partner by 1 p.p. This income component is equally shared among partners and it has a higher impact for couples with relatively big differences in incomes. That is the case for Q1 female breadwinner couples where male partners have, on average, a low income share (11%) compared to the lower-contributing female partners in male breadwinner couples (15%).

Figure 4: Redistributive effect of the tax-benefit policies in Croatia, 2019
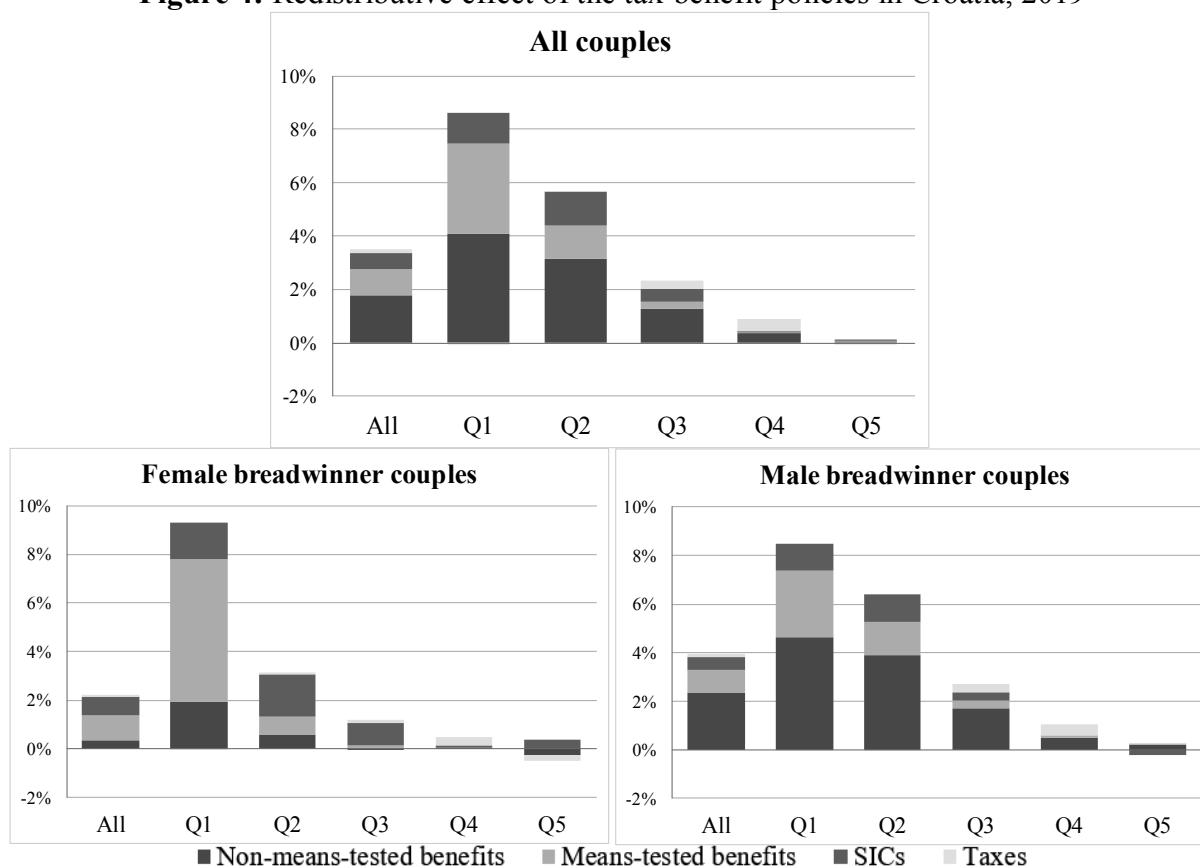
Note: Quintile groups have been formed according to the pre-fiscal income of the couples in the sample. Stacked sum is equal to the redistributive net effect of the tax-benefit system. SICs denotes social insurance contributions.
Source: author's calculation

Proportional social insurance contributions are the third most relevant policy group in the analysis and progressive taxation is the least inequality reducing policy group. The impact of taxes to a certain extent increases with income. Both personal income and property taxes and

social insurance contributions do not differ much in their equalising effect according to gender. However, for female breadwinner couples, a slight negative effect of taxes is noticeable. Such a result could be attributed to personal income tax allowances, which might diminish the tax obligations of the higher-contributing partner to a greater extent.

4. Conclusion

This paper presents the analysis of the impact of taxes and benefits on inequality within couples in Croatia in 2019. The elementary tool for the analysis was EUROMOD, an EU-wide tax-benefit microsimulation model. Pre-fiscal income shares of partners in couples were analysed. Based on income components' sharing assumptions, individual post-fiscal (disposable) incomes were created and the income shares of partners calculated. The differences between pre-fiscal and post-fiscal income shares were compared to assess the redistributive effect of the tax-benefit policies. Following the approach of Figari et al. (2011) the measure of the effect was attributed to the difference in the share of the lower contributing partner. Not only was the entire sample of couples analysed but gender disparities were investigated. The impact of the tax-benefit system on men and women, and especially on the higher income contributing partners was explored.

The findings point to a positive relative redistributive effect of the Croatian tax-benefit system: equalising the incomes of both partners and thus reducing income inequality. The results prove that there are differences in the scale of the impact of the overall tax-benefit system, as well as of policy groups, if different types of couples are compared. The redistributive effect is stronger in male breadwinner couples (the majority of couples) and in lower quintiles. On average, all policy groups have a positive redistributive effect within couples. Both non-means-tested and means-tested benefits achieve a strong income redistribution, with the latter being more important for female breadwinner couples. The stronger relative effect of the tax-benefit system in lower quintiles points also to a desirable poverty reduction.

The main limitation of the research comes from the assumptions of income component allocation among partners. In some cases, one partner might make decisions about the distribution of the total income of the couple, no matter whether that partner's income is larger or smaller. An additional limitation is the relatively small subsample of female breadwinner couples. Various sharing of policy groups could be explored in further research as well as the impact of policies on work incentives and poverty of both genders.

Some policy recommendations can be derived from this research. Taking into account the unemployment rate of women and their lower wages, the introduction of in-work benefits aiming to increase employment rates should be explored. Based on other countries' experiences, joint income taxation might prove to be more redistributive compared to the current income taxation and tax allowances. To perform such analyses, microsimulation models are an irreplaceable tool.

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GLOBAL ISSUES IN GENDER INEQUALITY: A COMPARATIVE STUDY

ABSTRACT

Current research on the position of women in society and the workplace is pointing that masculinity is valued in society and organizations. Numerous researchers have proven that gender and power permeate all facets of human interaction and operate within society and institutions with men controlling social, political and economic institutions, respectively the reality for many women in public bureaucracies is that gender and power relations are patriarchal.

This paper comparatively analyses a percentage of women in parliamentary seats of national countries worldwide with Legatum Prosperity Index ranks and its nine pillars aiming to show compatibilities and source of the level of participation of women in national parliaments. This paper's main aim is to explore political gender equality choosing female political representation as a dependent variable measured by the share of seats held by women in national parliaments, expressed as a percentage of all occupied seats. The explanatory variables in this research are split into two categories: political and socioeconomic determinants which are likely to explain whether there is gender inequality in politics across the globe. The set consists of eight variables, two political and six socioeconomic determinants: democracy level, GDP, total population, birth rate, military expenditure, gender equality clause in the constitution, the share of women in the labour market, the share of women with a post-secondary education degree. Data for this survey was obtained from the World Bank and Polity IV Project for133 available countries between 2009 and 2017 and the periodicity of all variables is annual.

The analysis consists of two methods: bivariate correlation analysis and one-way (time) effect within the model. The primary goal of bivariate correlation analysis is to check how the set of determinants correlates with the variable share of women in parliament. The bivariate correlation is followed by the fixed effects within estimation regression, which consists of the normal OLS regression, across four different models. The results of the analysis conducted on both national and global levels show qualitative and quantitative aspects of interconnection in-between political and socioeconomic determinants with women representation in the parliament.

Key words: *gender inequality, gender diversity, political gender equality.*

1. Introduction

Although a debate of empowering women in terms of gender equality has been societies' focus for decades it still provokes controversies and debates. The question of gender equality is one of the universal questions debated over in different historical periods and aspects of human species life. Its origin, scope, cultural diversity and causes although changed in appearance persist in different forms all around the globe. The social utopists' ideal of equal society has not yet been reached in humankind's history, but it still shows the way we need and want to go for the sake of humanity.

Societal relationships are framed, directed and regulated in society through socio-legal surround, coined from the lawmakers and fought for in the political arena. To search through the decisive law-making tool in a sense of gender equality means to look throughout the globe to check whether gender equality is balanced in the national parliamentary seats of different countries. Does the situation of gender equality differ in different parts of the world and has it changed over the last decade? What does the trend show and where does it places gender frames – does it makes us equal, do all society members and groups even want more equality? What is the final line? The possibility to be independent and freely decide on our destiny, to project our lives into universal and starry dimensions not being afraid others may judge, dismiss or exclude us from society. Therefore, the paper aims to comparatively analyse a percentage of women in parliamentary seats of national countries worldwide with Legatum Prosperity Index ranks and its nine pillars. This paper's main aim is to explore political gender equality choosing female political representation as a dependent variable measured by the share of seats held by women in national parliaments, expressed as a percentage of all seats occupied.

Political gender equality and woman representation in the political arena are key to ensure their well-being is taken into account in the political and consequently legislative process. Despite improvements we have witnessed in the twentieth century, women's participation and representation in national parliaments remain one of the major challenges to achieving gender equality globally. Its importance is also symbolic since it serves as a positive example of women's empowerment for wider society.

In this paper, we focus on national parliaments not just to raise the awareness of gender equality in the political and legislative process, but also to bring up the idea of gender-sensitive parliament to the academic debate (European Institute for Gender Equality, 2019).

2. Theoretical Framework

Social scientists predominantly agree that categorical inequalities in a society are created by embedding membership in a particular category (e.g., being a man or woman) in systems of control over material resources and power (e.g., Jackman, M.R. 1994, Jackson 1998, Tilly, 1998). One of the recent research on the topic of political inequalities points out an urge for the topic investigation showing how less than a quarter of the world's parliamentarians are women (Carmichael, Dilli, and Rijpma 2014).

The need for women participation in the political arena has also been argued by Besley and Case (2000) reporting that there is a significant relationship between the percentage of women in the parliamentary houses and the state's workers' compensation policy. They further explained that state policymaking is a purposeful action with a gender responsiveness impact. This utility aspect is also suggested by Meier and Perry (1993) claiming that the descriptive

representation of particular groups marks the type of benefit they receive during policymaking. The research has provided the following justifications for expanding the role of women in the democratic process: democratic justice, proper usage of resources, women and role models for the society.

Norris and Lovenduski (2005) state that the substantive representation of women involves the representation of women's interests in decision making and policy processes based on the principle that it is only women who could represent their interests. This view that the lack of female and male representation in different bureaucracies affects the extent to which public organizations assist female or male clients is also pointed by Dee (2007).

Political participation of women and democracy has been debated by (Zungura et al., 2013). They reported that there is no correlation between democracy and the number of women participating in politics. Gender and political inequality among democratic nation-states are issues that require the greatest attention as they obstruct the very principle of citizenship, which is the foundation of democracy (Verba, 2001).

The political participation of women influences economic growth as well. Laura et al. (2018) found how the access of women to active political participation has significant effects on economic growth. Dinuk, Jayasuriy and Burke (2013) conclude that countries in the Middle East and Pacific including more women in politics reported an annual increase in the GDP rate. The study reported an annual increase in the growth rate in GDP/capita for each increased percentage point of females represents an average of 0,16 %. Gender equal parliaments are more likely to invest in women's education and inclusive gender policies, creating the same possibilities for men and women to participate in a country's economic performance.

There are numerous globally aggravating circumstances for the political participation of women regarding the rapidly growing populations in developing countries. Birth rate increases the dependency burden and exerts more pressures on limited material and social resources, thus hindered the advancement of women. This dependency burden puts a heavy burden on women striving for political participation (United Nations, 1975).

Furthermore, worldwide studies have also shown that women's involvement in governance reduces countries' military expenditure. Women are proven pacifiers rather than warriors. A study conducted by Enloe (1993) reports that masculinity is intimately connected to militarism as well as essential for effective and trustworthy soldiering. Women are stereotyped as being compromising and compassionate leaders and men as assertive, aggressive, forceful, and capable of handling crises (Huddy and Terkildsen, 1993). Female politicians are thus perceived to perform well in healthcare, welfare, and other social policies, and less competent in the military, national defense, and foreign policy (Holman et al., 2011).

Compared to men, women have very limited opportunities for economic and social activities (Sadik, 1986; Curtin, 1982) although the gradual expansion of opportunities for female education resulted in the increased influx of women into the labour market. The analysis of official Eurostat data in (Pisker, B. et al., 2019) show how the woman in EU-28 have a higher share of tertiary level education when compared to men, but their wages are significantly lower when compared to their male colleges with the same educational level. This difference is especially present in managerial positions and even higher in developed countries than in less developed, especially in post-socialist societies.

Political participation of women and the share of women holding a post-secondary education degree needs to be emphasised. Verba, Schlozman and Brady (1995) showed that the education of women is directly related to their participation in politics as education develops the necessary skills for political participation. "Where women are more educated and empowered, economies are more productive and strong. Where women are fully represented, societies are more peaceful and stable" quotation from U.N.'s Secretary-General Ban Ki-Moon (UNNC, 2013). Education is understood as a major factor providing women with the tools necessary to become global leaders (UNNC, 2013).

Maber (2014), Kissane (2012), and Wallace, Haerpfer and Abbott (2009) reported that education is a factor in determining gender equality in the political sphere. Maber (2014) explained that access, equal educational content and pro-gender equality curricula are required in the educational system for gender equality and women enablement for leadership positions. Kissane's (2012) qualitative study explores access to and pro-gender equality curricula as the important dimensions of education required allowing women in Afghanistan to bout against the patriarchal system and lead the country toward democracy. Wallace, Haerpfer and Abbott (2009) research study reported that women, despite their level of education, believed in political gender equality. With this optimism we proceed to our result findings.

3. The Share of Women in National Parliaments Throughout the World

World Bank data (2019) show the lowest share of women representatives in national parliaments worldwide is present in some countries of the Arabian Peninsula (Qatar 9,8%, Oman 1,2%) and countries of the former Soviet Union - with the percentage varying from 15 to 16%. The highest percentage share of women representatives in national parliaments is found in Spain 47%, Finland 47% and Sweden 47% as the most developed countries of the world. Afghanistan 27,7% share has not been changed form 2009 which comes to a surprise especially since its Prosperity Index (PI) data show Afghanistan scores the last world rank position notably in personal freedom index (Legatum Prosperity Index, 2018).

The high percentage of women parliamentary representatives' surprises in some African and South-American countries like Cuba 48,9% and Rwanda 61,3% taking the lead in world rankings of women parliamentary representatives. While no results are found for Cuba, Rwanda takes only 84th world rank in PI. A high share of women parliamentary representatives in Finland and Sweden is confirmed as expected with the PI world ranking (Finland taking 3rd and Sweden 4th place). Spain surprised taking 22nd place in PI ranking, with a falling tendency. France, on the contrary, shows PI growth tendency while New Zealand and Norway share worlds 1st and 2nd PI ranking place with 40% of women parliamentary seats representatives.

The unexpected quantitative indicators shown oblige us to analyse other PIs components differently and try to connect their particularities with the differences in women parliamentary seat representatives shares through national societies of the world. Exploring nine pillars of prosperity (Economic Quality - *econ*, Business Environment – *busi*, Governance – *gove*, Education – *educ*, Health – *heal*, Safety and Security – *safe*, Personal Freedom – *pers*, Social Capital – *soci* and Natural Environment – *envi*) it does not surprise that Rwanda does not take world lead by any of the components listed. On the contrary, the majority of the Rwanda PI indicators take middle ranges, so we cannot explain its top position on women's parliamentary national representatives' world-scale by any of the quantitative macroeconomic indicators.

Finland, for example, takes 15ᵗʰ place in economic wealth and social wellbeing, but if compared to government efficiency (*gove*) it scores 1ˢᵗ world place. Sweden is ranked higher in *econ* (5ᵗʰ) and *pers* (7ᵗʰ) but lower in *gove* and *educ* indicator. Spain is thou 46ᵗʰ in *econ*, 37ᵗʰ in *educ* and 14ᵗʰ in *pers* indicators. High level of women representatives in the national parliament of New Zealand can be understood through 1ˢᵗ place in *pers* freedoms (including basic legal rights and social tolerance) and *gove* 2ⁿᵈ place, while Norway's rank can be understood in *econ, educ, gove* and *pers* ranked in top ten world countries. Relatively high Qatar rank in *econ* (22ⁿᵈ) did not influence women to occupy national parliamentary seats and the situation can be observed through low *pers* rank (104ᵗʰ) and *gove* 66ᵗʰ, as in Oman's case with *pers* positioned at 105ᵗʰ and *econ* 59ᵗʰ world rank.

Figure 1: Percentage of Women in National Parliaments between 1997 and 2019 in Selected Countries
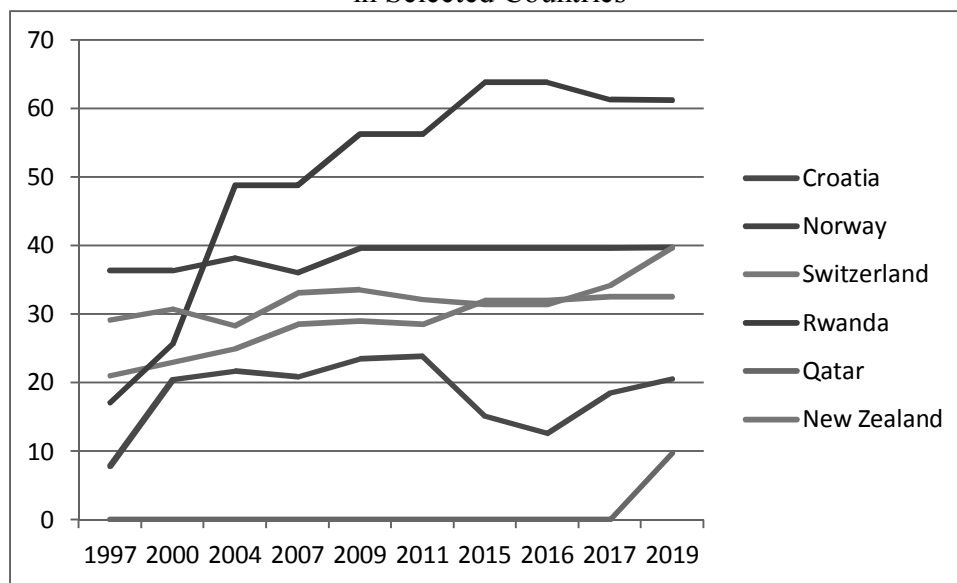
Source of data: World Bank (2019)

Croatia's overall PI rank in 2017 was 41ˢᵗ (*econ* – 68ᵗʰ, *educ* – 29ᵗʰ, *gove* – 56ᵗʰ, *pers*- 40ᵗʰ) with women representatives in the national parliament of 18,5%. The 2019 growth showed 20,53% (while it reached its highest position in 2014 with 23,8%). This position is similar to Greece being 48ᵗʰ in PI and *econ, educ* and *pers* at a significantly worse rank (Radman-Funarić et al., 2019). Conclusively share of women in national parliamentary seats showed unexpected linkages to Prosperity Index and its pillars.

The data of history on women's rights to vote in the countries taken into consideration show how New Zealand was the first world county giving women the right to vote in 1893. Finland, Norway and Sweden voted on women's rights in the early 20ᵗʰ century, with the majority of European countries adopting the policy in the mid of the 20ᵗʰ century. On the contrary, in the majority of middle East and African countries women fought for a longer period to gain their right to vote and eventually succeeded in the dawn of the 20ᵗʰ and the beginning of the 21ˢᵗ century. This implies the importance of a century-long tradition women obtained participating in a political decision process in Europe, as a qualitative explanatory model in understanding the difference of women shares of parliamentary seats occupied in different countries throughout the world.

4. Research Methodology

The analysis consists of two methods: bivariate correlation analysis and one-way (time) effect within the model. We start with bivariate correlation analysis measuring the strength of correlation between two variables which is described by Pearson's correlation coefficient. The variables in this part of the analysis are not treated as either dependent or independent. The primary goal of bivariate correlation analysis is to check how the set of determinants correlates with the variable share of women in parliament. Additionally, we get insight into how determinants correlate with each other to avoid multicollinearity, and therefore, helps us to create models for further analysis.

The results are used to prevent 'explaining away' the effect of determinants on our dependent variable by adding multicollinear determinants. After presenting results from the bivariate correlation, we move on to the next step of the analysis, one-way (time) effect within the model. All preliminary tests of normality, linearity and homogeneity of the variance were conducted before the next step of the analysis to ensure that the data is valid to investigate.

4.1. Data

The data is obtained from the World Bank and the Polity IV Project. The data sources are credible and widely used. The sample includes 133 countries data in a period between 2009 and 2017 with the annual periodicity of all variables. Other countries are excluded from the research due to the lack of full data availability. The full list of countries observed is presented in the Appendix. The period between 2009 and 2017 has been chosen for two reasons: firstly, the data for the set of variables observed are only available in the period mentioned and secondly, this period was never scientifically examined before this research conducted.

The dependent variable in this research is the proportion of seats held by women in national parliaments, expressed as a percentage of all occupied seats. The data is collected from the World Bank and captures the percentage of women members in a single chamber in unicameral parliaments and the lower chamber in bicameral parliaments. Upper chambers in bicameral parliaments are not included in this measure. This dependent variable represents female political representation in each country which is a suitable measure for political gender equality. Despite all the differences mentioned in chapter 3 of this paper World Bank data (2019) show the percentage of women representatives in national parliaments increases globally in the period from 2009 until 2017 for 4,623%. The average annual growth of women shares in national parliaments in a period mentioned is 0,514% and has not changed since 1997. The overall growth rate in the period obtained is 11,692%.

Figure 2: Average Percentage of Women in Parliaments Across the Sample between 2009 and 2017
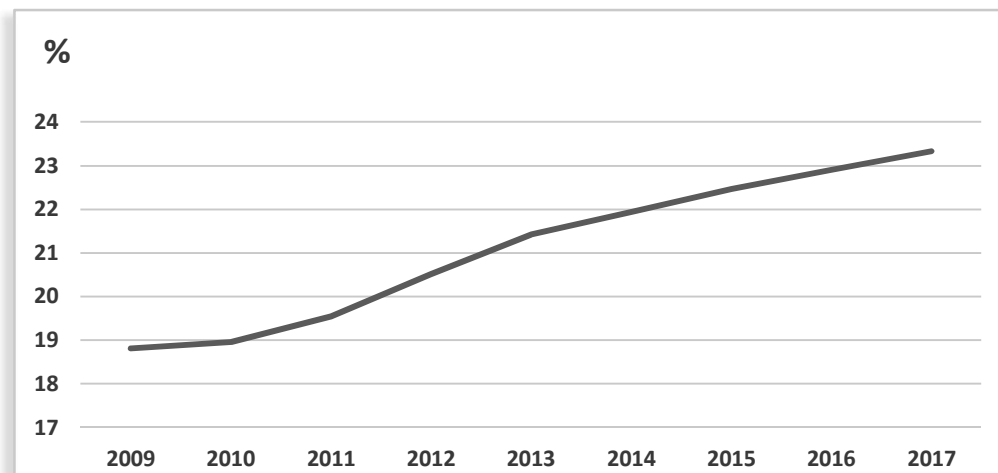
Source of data: World Bank (2019)

The explanatory variables in this research are split into two categories: political and socioeconomic determinants which are likely to explain whether there is gender inequality in politics across the globe. The set consists of 8 variables, 2 political and 6 socioeconomic determinants: Polity 2 democracy measure, the natural logarithm of GDP in current US Dollars, the natural logarithm of the total population, birth rate, military expenditure, dummy variable which denotes whether countries have gender equality clause mentioned in the constitution, the share of women in labour market, and finally, the share of women with a post-secondary education degree.

Firstly, Polity 2 variable is produced by Polity IV Project and measures democracy level of each country in each year. Democracy level is measured following numerous factors such a: free and fair elections, freedom of speech, freedom of trade, travel, etc. (SCO, Polity IV, 2018). The variable ranges from -10 to 10, where 10 denotes the most democratic country. Since countries with higher democracy scores are more likely to respect gender equality in all spheres, we expect this variable to be positively correlated with the dependent variable.

Secondly, GDP in current US Dollars refers to the real GDP of the country. The data is obtained from the World Bank database (2019). GDP is a critical variable since we want to see whether high-income countries are more likely to elect women in parliament. Therefore, we expect a positive relationship between GDP and gender equality in politics. GDP is transformed into a natural logarithm before the statistical analysis since it paints a clearer picture of GDP changes multiplicatively rather than additively over time.

Thirdly, the country's population refers to the number of residents in a country. Data is obtained from the World Bank (2019). The population variable represents the size of the country and the expected relationship between population and gender equality in politics is unclear. The population is transformed into a natural logarithm before the analysis to serve as a proxy for the population size and the country size.

Fourthly, the birth rate refers to the crude birth rate per 1000 people. Data is obtained from the World Bank (2019). We expect a birth rate to be negatively correlated with the share of women

in parliament since women who have families and children are less likely to pursue a political career.

Fifthly, military expenditure expressed as a percentage of GDP denotes all the funds spent on military staff and operations (World Bank, 2019). The predicted relationship between military expenditure and gender equality in politics is negative because countries with more military expenditure tend to be more male-oriented and therefore, tend to elect fewer women representatives in the parliament, or in the worst-case scenario restrict women's participation in politics.

Sixthly, the constitution variable is a dummy variable of 0 or 1, where 1 denotes that a country has a constitutional clause that mentions gender equality (World Bank, 2019). The expected relationship is positive because countries that have no gender equality clause are less likely to allow women to participate in politics.

Seventhly, the share of women in the labour market over the age of 15 represents a percentage of women employed out of the total number of women in the country. The data is also sourced from the World Bank. We expect this variable to be positively correlated to the share of women in the national parliament because countries with more women in employment are more likely to have more women pursuing a political career.

Lastly, the share of women holding a post-secondary education degree refers to the percentage of women with a post-secondary education degree or higher out of the total number of women (World Bank, 2019). The expected relationship is positive because countries with more educated women are more likely to have more qualified candidates for political representative positions.

Table 1 presents descriptive statistics for all variables included in the statistical analysis of this paper. The number of valid observations for each variable is described in column N, and it varies based on the availability of data for each variable. All variables except the share of women holding a post-secondary degree or higher have a small number of missing data. This might affect our analysis since the unavailable data may change results, but since it cannot be obtained, we are interested in the results that the data available can provide. The period covered is between 2009 and 2017 and the table shows that there is some deviation in the data because of the large sample. Furthermore, diversity in the data can be explained by the diversity of countries analysed.

Table 1: Descriptive Statistics

Variable Name	N	Minimum	Maximum	Mean	Std. Deviation
parliament	1179	.0000	53.1000	21.0968	11.0621
polity2	1188	-10.0000	10.0000	4.5791	5.9883
loggdp	1197	9.1814	13.2897	10.9198	.8237
logpop	1194	5.6154	9.1419	7.1503	.6286
birthrate	1197	7.0000	50.3770	20.5690	10.7271

Variable Name	N	Minimum	Maximum	Mean	Std. Deviation
military	1133	.0000	16.1566	2.0177	1.7681
constitution	1197	.0000	1.0000	.6600	.4739
laborfemale15	1197	11.9290	87.1180	51.7240	15.1102
postseceducationfemale	440	.7658	68.1727	24.6410	13.6546

Note: Descriptive statistics for all variables used in the analysis.
Source: authors

4.2. Experimental Design

The bivariate correlation is followed by the fixed effects within estimation regression across four models, where the first model starts with only 5 determinants. Gradually, we added one more determinant to each model and ended up with four different models to investigate how the results are going to change based on additional determinants added. Fixed (time) effects within estimation regression examine individual differences in intercepts, assuming the same slopes and constant variance across individual countries. Furthermore, the model is estimated within estimation regression which consists of the normal OLS regression using deviations from the time period means. Simplified, it uses variation within each country instead of a large number of dummies to perform an estimation (Baltagi, 2013). The model was estimated using the statistical package 'plm' in R programming language. The functional form of the fixed effect within the model is the following:

$$(y_{it} - \bar{y}_{i \cdot}) = (x_{it} - \bar{x}_{i \cdot})' \beta + (\varepsilon_{it} - \bar{\varepsilon}_{i \cdot}), \qquad (1)$$

Where $\bar{y}_{i \cdot}$ is the mean of the dependent variable (percentage of women in parliaments) of individual country i. Moreover, $\bar{x}_{i \cdot}$ represents the means of all determinants of individual i, and $\bar{\varepsilon}_{i \cdot}$ is the mean of errors of individual i.

5. Results and Discussion

The results are presented in Table 2 and Table 3 below. As mentioned in the previous section, the analysis starts with bivariate correlation analysis to check how variables relate to each other and to check for the potential multicollinearity of political and socioeconomic determinants. Table 2 shows that the Polity 2 democracy score is weak positively correlated (0.203) with the percentage of women in parliament, following our assumption. Military expenditure is in a weak negative correlation (-0.230***) compared to the percentage of women in parliaments, which is also in line with the assumption made in the previous section. Other notable correlations found in Table 2 include birth rate and democracy level, birth rate and GDP as expected due to the underdeveloped countries tend to have more children per family, attributed to the lack of birth control methods and sexual education.

<p style="text-align:center">**Table 2:** Bivariate Correlations</p>

Variable Name	parliament	polity2	loggdp	logpop	birthrate	military	constitution	Labor female15
parliament	1							
polity2	.203***	1						
loggdp	.142***	.134***	1					
logpop	.040	-.133***	.636***	1				
birthrate	-.079***	**-.334***	**-.504***	.146***	1			
military	-.230***	**-.463***	.078***	.032***	.047***	1		
constitution	-.075**	-.015	-.158***	-.015	.227***	-.013	1	
laborfemale15	.185***	.075***	-.169***	-.028	.241***	-.308***	.175***	1
Postsec educationfemale	0.83*	0.012	0.206***	-0.269***	**-0.490***	0.119**	-0.094**	0.232***

Note: ***significant at 1% level, **significant at 5% level, *significant at 10% level.

<p style="text-align:center">*Source: authors*</p>

The results of the fixed effects 'within' regression are presented in Table 3. It is crucial to note that regression coefficients represent the mean change in the dependent variable for one unit of change in the predictor variable. Model 1 of our regression suggests that there is a statistically significant positive relationship between the natural log of GDP and the percentage of women in parliament. The regression coefficient is equal to 7.753 which represents that a change in one unit of the natural log of GDP equals a 7.753% increase of women representatives in the parliamentary seats. This result suggests that women are more likely to be elected in countries with higher GDP. These results match the findings shown in the comparative analysis of PI and women share in national parliaments in economically developed countries (Norway, Sweden) and opposes to economic indicators of development Qatar (*econ*– 22nd, women share in parliaments 9,8%) and Rwanda (*econ* – 75th, women share in parliaments 61,3%). Moreover, the birth rate is in a statistically significant negative relationship with women's representation in parliament. An increase in 1 crude birth per 1000 people in the country leads to 1.174% fewer women elected in the parliament. The result suggests that countries with more children born are less likely to have women representatives. All other coefficients are insignificant at 1, 5 or 10% level.

Model 2 includes an additional variable that captures the notion of whether countries embedded gender clause in their constitutions. The regression coefficient for the natural log of GDP remains almost equal to Model 1. However, the birth rate regression coefficient has substantially changed to -5.770. Model 3 includes all variables from previous models and adds a variable woman over 15 years of age in employment, measured as a percentage out of the total number of women. The natural log of GDP and birth rate are once again significant at 1% level and remain almost the same as the result in Model 1. However, women in the employment variable are now significant at 5% level and suggest that for every 1 percent more of women

employed, the percentage of women in parliament changes for 0.218%. Lastly, model 4 includes all variables in the previous three models and adds the additional variable – a percentage of women with post-secondary education. We now lose the significance of the GDP variable, and the birth rate remains highly significant with a coefficient of -1.845. Moreover, military expenditure becomes significant at a 5% level with a coefficient of -1.408. This result explains that every percent of GDP spent on military expenditure potentially reduces the percentage of women in parliament by 1.408%. Lastly, the percentage of women holding a post-secondary education is significant at a 1% level with a coefficient of 0.327 which suggests that every percent increase in women with post-secondary education increases women's representation by 0.327%.

Table 3: Fixed (time) Effect 'within' Regression

Dependent Variable: Percentage of women in parliament

Political and Socioeconomic Determinants	Model 1	Model 2	Model 3	Model 4
Polity2 Democracy Score	0.129 (0.189)	0.124 (0.210)	0.146 (0.141)	0.141 (0.506)
ln (GDP in current USD)	7.753*** (0.000)	7.742*** (0.000)	7.775*** (0.000)	1.723 (0.596)
ln (Population)	13.211 (0.127)	13.225 (0.302)	11.106 (0.200)	-1.235 (0.953)
Birth Rate	-1.174*** (0.000)	-5.770*** (0.000)	-1.166*** (0.000)	-1.845*** (0.000)
Military Expenditure (% of GDP)	0.167 (0.438)	0.756 (0.450)	-0.142 (0.509)	-1.408** (0.012)
Gender equality clause in the constitution		0.468 (0.640)	0.609 (0.690)	3.144 (0.402)
Percentage of women over 15 in employment, out of total N of women			0.218** (0.011)	-0.098 (0.514)
Percentage of women holding a post-secondary degree, out of total N of women				0.327*** (0.000)
Countries	133	133	133	133

Note: Estimated regression coefficients are reported. P-value is reported in parentheses. ***significant at 1% level, **significant at 5% level, *significant at 10% level.

Source: authors

6. Conclusion

The legacy of the case of traditional female-male roles in labour division, often considered not to prevail longer in our contemporary societies, seem to be so very well hidden under the society's surface. The stepping stone elements inherited from our ancestors in family-work as opposed to female-male terms seemingly continue to replay the maxim on gender-poled roles division in general and particular social roles women occupy.

The results of the survey have shown that country's democracy level achieved is weakly connected to the percent of women representatives in national parliaments. Although statistically relevant positive connection in-between women parliamentary representatives and GDP level is found its feature has shown weak. As expected, higher military expenses result in a lower share of women parliamentary representatives, as shown by statistically relevant negative correlation. It is also observed, as expected by the authors, how the birth rate is statistically significant negative concerning women representation in the national parliament, although the relationship is weak.

Similar results were obtained through a simple comparison exploring share of women parliamentary national representatives to Prosperity index and its pillars, especially Economic Quality which includes economic wealth and social wellbeing and personal freedom which included basic legal rights and social tolerance. It was also found how certain countries with high economic wealth, social wellbeing and effective government rank have a high share of women's national parliament representatives. Many of the countries observed in this survey although showing the same data do not result in the same proportion of women parliamentary seats held. Research limitations, in a sense of the methodological concept chosen, have shown no unambiguous explanation in authors' effort to determine the universally applicable cause and effect model on reasons for global differences in between the countries observed regarding the point of women national parliaments representatives found. Despite the limitations listed, we find research implications on cause and effect relationship between numerous model analyses presented, important and worthy step forward in our quest for answers on woman global political underrepresentation question. Therefore, meaningful cause to explain the lairs and multiple complexities of data presented in the national differences of the research topic still need further analysis.

Although we might assume how undeveloped countries adopting a socio-legal framework for women equality recently found very alive women motivation for political process participation (the case of Rwanda) and western civilisation countries historical legacy of women participation in overall societal activities showed fully different models in contemporary western societies we are still to find appropriate research tools to prove those ideas. We have learned how developed society's historical experience on active women's participation shows different patterns informing us on how in allowing both men and women to choose their patterns to balance professional and private we are to practice full gender equality.

To reach this utopic ideal of social equality further research development in the topic frame is needed through additional statistical analysis and the use of other statistical tools and methods to answer a set of causes persistently provoking global differences still present in gender inequality existence worldwide.

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Appendix: List of countries

Afghanistan, Albania, Algeria, Angola, Argentina, Armenia, Australia, Austria, Azerbaijan, Belarus, Belgium, Bolivia, Bosnia and Herzegovina, Botswana, Brazil, Bulgaria, Burundi, Cambodia, Cameroon, Canada, Central African Republic, Chad, Chile, China, Colombia, Congo, Dem. Rep., Congo, Rep., Costa Rica, Croatia, Cuba, Cyprus, Czech Republic, Denmark, Dominican Republic, Ecuador, Egypt, El Salvador, Estonia, Ethiopia, Finland, France, Georgia, Germany, Ghana, Greece, Haiti, Honduras, Hungary, India, Indonesia, Iran Islamic Rep., Iraq, Ireland, Israel, Italy, Jamaica, Japan, Jordan, Kazakhstan, Kenya, Korea Rep., Kuwait, Kyrgyz Republic, Latvia, Lebanon, Lesotho, Liberia, Libya, Lithuania, Luxembourg, Madagascar, Malawi, Malaysia, Mali, Malta, Mauritania, Mauritius, Mexico, Moldova, Mongolia, Montenegro, Morocco, Mozambique, Myanmar, Namibia, Nepal, Netherlands, New Zealand, Nicaragua, Niger, Nigeria, Norway, Oman, Pakistan, Panama, Papua New Guinea, Paraguay, Peru, Philippines, Poland, Portugal, Qatar, Romania, Russian Federation, Saudi Arabia, Senegal, Serbia, Singapore, Slovak Republic, Slovenia, South Africa, Spain, Sri Lanka, Sudan, Sweden, Switzerland, Tajikistan, Tanzania, Thailand, Togo, Tunisia, Turkey, Turkmenistan, Uganda, Ukraine, United Arab Emirates, United Kingdom, United States, Uruguay, Uzbekistan, Vietnam, Zambia, Zimbabwe.

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CREATIVE ACCOUNTING AS A POSSIBLE SOURCE OF FRAUDULENNT BEHAVIOUR IN COMMERCIAL CORPORATIONS

ABSTRACT

Creative accounting can be understood as a process in which the accounting data is handled intentionally. The essence of creative accounting and its use is that it seeks to adapt the financial statements in a form that suits its creators. The main objective of this paper is to present creative accounting as a possible source of fraudulent behaviour in commercial companies. The paper deals with methods of creative accounting as a source of necessary behaviour of companies. The window dressing method and off-balance-sheet financing were discussed in more detail. The paper examines fraudulent practices and individual creative accounting techniques. The presented paper will also focus on commonly known and extended models. These models most commonly include Beneish, Altman, CFEBT and Piotorski. They identify hidden, unusual or different patterns suggesting fraud. Also, the article examines possibility, whether the models can be used to detect fraudulent behaviour of the Slovak company. These models mainly examine the trend in the development of the values obtained over the last five business years of the company and analyse possible deviations. Methods of analysis and comparison of individual analytical models are based on subtraction of fraud and are also used to meet the objective of the presented work. In evaluating a particular case in the models, it had to be taken into account whether the conduct that led to the misstatement of the financial statements was intentionally caused. The means of detecting fraudulent activities clearly include the well-implemented internal control system of the company. Proposals for the proper functioning of the internal system include the anonymous line of the company. Continuous employee training, code of ethics and overall corporate culture. Therefore, the conclusion of prevention is generally to prevent fraud before it even occurs.

Key words: *creative accounting, fraudulent, methods, commercial companies.*

1. Introduction

Creative accounting can be understood as a process in which we deliberately manipulate accounting data. The objective of creative accounting is to adjust the financial statements to a form that suits its creators (Rabeea, Olah, Popp and Máté, 2018, 4). It can also be understood as activity to modify transactions. Transactions are adjusted to achieve favourable economic results. At present, there are several reasons for manipulating financial statements. Among them increasing earnings/loss due to improving position revenue and reduction of earnings/loss due to tax optimization (Kovacova and Kliestik, 2017, 778).

Creativity in accounting should be considered as activities covered by valid legislation. Its margins start with adherence to ethics and finish with the limits of fraud. Its second approach, on the other hand, defines all intentional activities (Falkman and Tagesson, 2008, 271). We can divide them according to the envisaged sanctions into three stages.

The first stage is handling of statements within the valid legislation. These handling activities include the valuation of assets, creation of reserves or provisions. (Stangova and Vighova, 2016, 97) In these activities, there is no significant breach of the principle of true and fair representation of the facts. Such adjustments are sometimes viewed very positively. In some cases, financial difficulties can help the company, for example, by obtaining a loan.

The second stage is the one in which the financial statements are distorted in violation of the applicable legislation. These are various forms of short-term offences. They may be fined by the tax office under the Accounting Act up to three to six percent of the total amount of assets (Duru, Hasan, Song and Zhao, 2020, 269).

The third stage of manipulation is one in which the offender commits a crime according to Act no. 300/2005 Coll. Criminal Code. These are, for example, various forms of money laundering, criminal associations, etc. By definition, creative accounting focuses rather on improving economic performance (Salaga, Bartosova and Kicova, 2015, 485).

On the other hand, it should be noted that creative accounting can also have a positive impact on businesses, thereby saving them from crash. Creative accounting is actually adjusting the financial statements according to the wishes and needs of the company management. Thus, it constitutes a deliberate distortion of the accounting documents or the setting of the accounting methods of the procedures in order to conceal the facts.(Valaskova, Kliestik, Svabova and Adamko, 2018a, 2) Creative accounting includes, for example, executing transactions that are designed to present a desirable financial position, an enterprise's cash flows, and performance. The most common use of creative accounting is the manipulation of financial accounting data to cover the requirements of the state - especially the tax authorities. Companies are trying to underestimate the economic result in order to pay the lowest possible tax liability (Stangova and Vighova, 2016, 97). Various methods and procedures can be used for this. Creative accounting forms the boundary between alternative approaches that allows legislation and fraudulent financial reporting. In practice, we consider the practices of creative accounting, as mentioned above, to be dishonest because they are deliberate, purposeful misrepresentation of output information. (Lin, Zhao, and Guan, 2014, 254). Different forms and techniques of accounting data purposeful misrepresentation may have much in common with creative accounting. The most important, is the manipulation of accounting information. Different manipulation techniques are differentiated according to whether a particular technique of data distortion is more or less obvious. (Ahn and Choho, 2019, 379), or whether a high professional qualification of auditors is needed to detect it.

2. Methods

Individual techniques of the creative accounting find their form in the so-called Windows dressing and off-balance-sheet financing may include for example aggressive selection and implementation of accounting principles and regulations. Fraudulent financial reporting, as well as all other procedures tend to manipulate profits with the main focus on achieving a predetermined goal. So called *"income smoothing"*, which seeks to minimize variations in reported profits in each year. In practice, this may mean attempting to withhold profits in the case of successful years and spilling them into potentially unsuccessful periods.

2.1. Windows dressing

The window dressing technique can be defined as a certain management of accounting transactions. They provide statements that distort or not represent the financial position of the company. The main objective of this technique is to create a better financial position than it actually is. Among the best-known techniques of window dressing are deliberately wrong estimates, for example when determining the useful life of fixed assets. Targeted non-compliance with the precautionary principle. Whether in a positive or negative sense, for example in the case of provisioning. These can be created by the company at the cost of complaints. On unused holidays and various employee bonuses. Ongoing litigation, disadvantageous contracts and the like. The possibility of creating and drawing reserves should be described in the company's internal regulations. As in the case of provisions, provisioning depends in some cases only on a subjective estimate of the amount of future liabilities. Activity, which provides space for handling, is the sale of assets and their subsequent repurchase by enterprises. Sometimes even without the actual movement of the asset. Incorrect recognition or recognition of revenue within the reporting period is probably the most common practice, where revenue is recognized. For example, at the time the order is received or at the time of product creation. These changes in the recognition of assets may cause deviations in the determination of value or their classification. For example, in the case of securities held for sale or held to maturity.

2.2. Off–balance–sheet financing

In the case of off-balance-sheet finance, the assets and liabilities of the company may be recognized in the balance sheet of other legal entities. The main aim of this technique is to maintain the optimal financial position of the company, in relation to debt for example. The main techniques include the deliberate confusion of financial and operating leases. Fixed-rate loans charged. Equity items or secured loans classified as sales.

Currently, there are various complicated statistical methods or data collection techniques to achieve the main goal of creative accounting. They can identify hidden, unusual or divergent patterns indicating fraud. These include various analytical models used to detect possible errors and frauds in accounting. Forensic audit companies today certainly have their sophisticated systems. However, presented article will focus on commonly known and widespread models. These models most often include Beneish, Altman, CFEBT and Piotorski models.

2.3. Altman model

Altman model can also be used to identify possible accounting errors or fraud. It can be characterized in general as an early warning model or as a bankruptcy model. The main purpose of the model is to identify the company's future bankruptcy. It is a model that was in its early phase used for the needs of the US economy. This also resulted in various reservations about the limited applicability of this model in the conditions of the Slovak economy. In table 1, there is an interpretation of the Altman model. Altman's formulation of bankruptcy for companies and the main definition relationship is determined by:

$$Z = 0{,}717 * X1 + 0{,}847 * X2 + 3{,}107 * X3 + 0{,}42 * X4 + 0{,}998 * X5 \qquad (1)$$

X1   working capital/total assets
X2   retained earnings/total assets
X3   (pre-tax earnings + interest)/total assets
X4   book value of share capital/book value of foreign capital

X5   Revenues (total revenues)/total assets

Table 1: Interpretation Altman model

Value	Interpretation
Z > 2,9	Companies with a satisfactory financial situation
2,9 < Z < 1,2	Companies with uncertain financial situation
Z < 1,2	Companies directly at risk of bankruptcy

Sources: own collaboration

The limitation of 1.2-2.9 stems from a method error that does not give reliable results at this interval. However, the reliability of the forecast is very high outside this interval. The methodology considers two years as the basic time horizon, for which the reliability of the prediction is 94 to 96%.

2.4. CFEBT model

This model is based on the basic assumption that there is a close link between profit or loss and changes in cash flows for a period of five consecutive years. Thus, with slight deviations, similar results should occur over this period. The main definition is based on the formula:

$$CFEBT = \sum_{t=1}^{5} \left(\frac{\Delta\,CFt - EBTt}{EBTt} \right)$$

(2)

Where:

EBT -   pre-tax earnings

ΔCF -   change in cash flows

If the indicator CFEBT is higher than materiality (usually 5-10%), there is an increased risk of manipulation of true and fair reality. In this case, it is necessary to analyse significant changes between CF and earnings or loss. Companies need to be able to evaluate their character. For example, whether these are not just deviations caused by large-scale investments. Also, developments in areas of non-compliance due to accrual nature are monitored. Such as the creation of provisions, reserves or temporary assets and liabilities. This model is suitable for verifying a true and fair view of reality in relation to the application of an international standard. The model is not very well known, but the correlation between CF and EBT in the longer term is evident in terms of manipulation of financial statements. A company that generates earnings in the longer term should be able to generate corresponding cash flows.

2.5. Beneish model

It is a mathematical model containing eight variables. By using this model, it is possible to identify possible data manipulation based on the financial statements. Table 2 shows the characteristics of the Beneish model. The main definition of relation is based on the equation:

$$M = -4.84 + 0.92\text{xDSRI} + 0.528\text{xGMI} + 0.404\text{xAQI} + 0.892\text{xSGI} + 0.115\text{xDEPI}$$
$$- 0.172\text{xSGAI} + 4.679\text{xTATA} - 0.327\text{xLVGI}$$

(3)

Table 2: Characteristics Beneish model

	Characteristic
DSRI	Measured as the ratio of days' sales in receivables in year t to year t-1. A large increase in DSR could be indicative of revenue inflation.
GMI	Measured as the ratio of gross margin in year t-1 to gross margin in year t
AQI	AQI is the ratio of asset quality in year t to year t-1
SGI	Ratio of sales in year t to sales in year t-1
DEPI	Measured as the ratio of the rate of depreciation in year t-1 to the corresponding rate in year t

	Characteristic
SGAI	The ratio of SGA expenses in year t relative to year t -1
TATA	Total accruals calculated as the change in working capital accounts other than cashless depreciation.
LVGI	The ratio of total debt to total assets in year t relative to year t-1

Sources: own collaboration

If value M is higher than -2.22 value, it means that the indicator indicates the existence of balance sheet fraud. If the value of the coefficient M is smaller, the financial statements in the enterprise are prepared without any indication of balance sheet flows.

2.6. Piotroski Score model

The model is focused on the prediction of potential financial distress. The big advantage of this model is that in the evaluation of the company uses a combination of various known ratios used also in a comprehensive financial analysis. Based on their values, this model assigns points to the company. The model focuses on areas that include operational efficiency, profitability, liquidity, funding sources and leverage. Points are aasigned by comparing data with the previous year. If there is a positive net income, 1 point should be assigned. Positive rate of return in the current year - 1 point. Positive operating cash flow for the current year - 1 point. Cash flow from operations is higher than net income - 1 point. Lower long-term debt ratio in the current period compared to the previous year - 1 point. Higher current ratio this year compared to the previous year - 1 point. No shares issued in the last year - 1 point. Higher gross margin compared to the previous year - 1 point. Higher asset turnover ratio compared to the previous year - 1 point. Their amount is used to determine the business score. A total of 9 points are awarded in this way, if all requirements are met.

In the third part of this article, the analysis of instruments for the prevention and detection of fraud will be applied in one Slovak company. The next steps were as follows. Models based on publicly available information were tested first. Subsequent implementation of Altman, CFEBT, Beneish and Piotroski models in selected company. In particular, these models examined the trend in the evolution of values obtained over the past five financial years in the company and analysed significant deviations. Article also contains proposals to improve the possibilities of prevention and detection of fraud.

3. Results

Analysis of the tools for prevention and detection of fraud in a Slovak company was performed. The analysis was carried out using models to analyse indicators of Slovak company. Among the used methods, we can include the above-mentioned models. Namely Altman model. Piotroski Score model, CFEBT model and Beneish model. The analysis of the models has been carried out for the last 5 years from 2014 until 2018.

3.1. Altman model

The ALTMAN model was the first of the analytical tools. The analysis was carried out from 2014 until 2018. Its implementation, results and graphical representation with boundary values are shown in Figure 1.

Figure 1: Graphical representation results of the Altman model
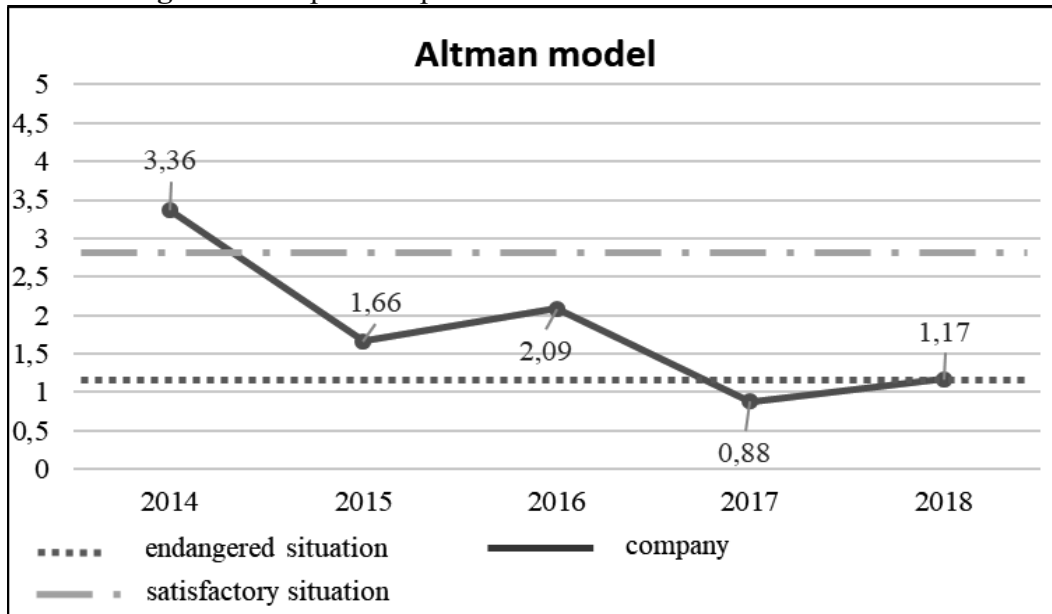
Sources: own collaboration

From the figure 1, it is clear that in 2014 the company reached a value of Z higher than 2.9. The company reached 3.366 value, which is above the threshold value for profit 2.9. It means the company was in a satisfactory financial situation in 2014. However, in 2015 and 2016, the company found itself in an indefinite financial situation as the results has fallen to 1.660 and 2.088. In 2017, the company achieved a Z value of only 0.882. It means that rated company faced direct threat of falling into bankruptcy. In 2018, the final value of Z-score rose to 1.174, which is still narrowly under the bankruptcy threshold. However, we can assume that since the volume of business in the company has increased, it has been successful in preventing bankruptcy.

3.2. CFEBT model

As the next step, the CFEB model was applied. This model has a very interesting explanatory function. Many indicators of financial analysis depend on the value of profits, which the company reported. Therefore, at times, the company's motivation to show fictitious sales can be very high. However, the focus should be also aimed on the real money that the company can generate based on its results. The results of the analysis are shown in Table 2.

Table 2: Results of CFEBT model

	2014	2015	2016	2017	2018	2014-2018
CF at the beginning of the year	1,634,323	875,700	2,354,237	487,721	1,278,611	6,630,592
CF at the end of the year	875,700	2,354,237	487,721	1,278,611	939,163	5,935,432
Change CF	-758,623	1,478,537	-1,866,516	790,890	-339,448	-695,160
EBT	168,305	10,956	3,611	-149,115	377	34,134
CFEBT						**-21.37%**

Sources: own collaboration

The indicator CFEBT is 21%. This is usually compared to materiality values, approximately 5-10%. If CFEB is higher than materiality, there is an increased risk of manipulating a true and fair view of reality. In this case, the relationship is 21.37% and is significantly higher than 5-10%. This is probably due to an increase in short-term liabilities from 2014 to 2015 by almost € 200,000. Also, in a deeper analysis, this difference may represent the opening of a new company operating in another regional city of Slovakia. Analysis of individual factors is

needed because a detailed analysis of the significant changes in reports is an important prerequisite that can subsequently help to focus attention on suspicious transactions.

3.3. Beneish model

Another analysed model was the BENEISH model. The analysis was also carried out from 2014 until 2018 years. Its implementation and company results are shown in Figure 2.

Figure 2: Graphical representation results of the Beneish modelu
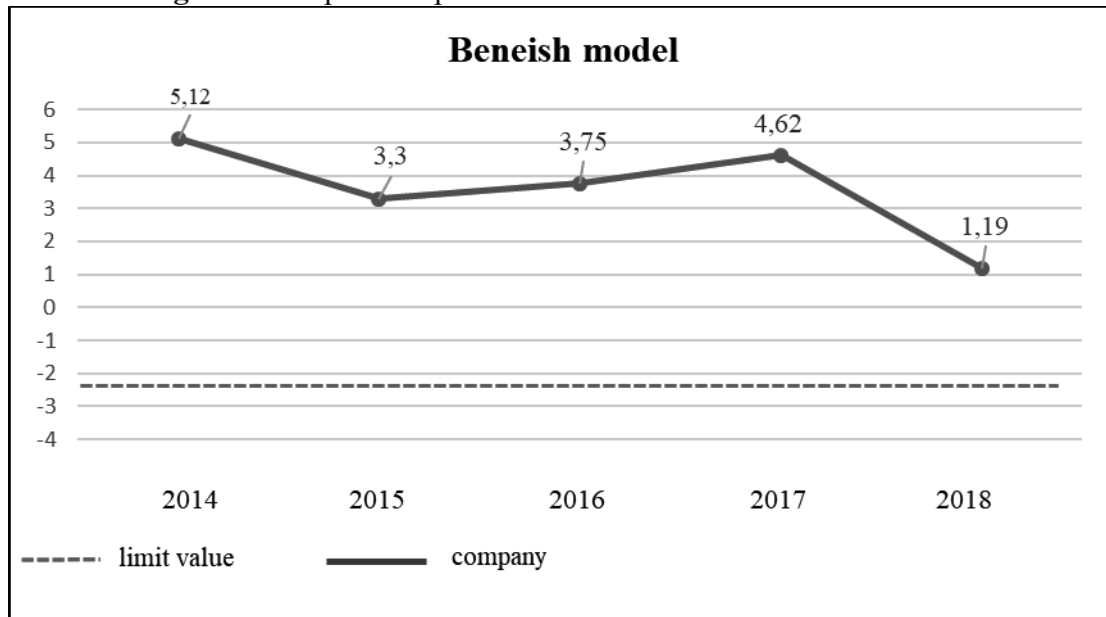
Sources: own collaboration

Based on mathematical model presented above, it uses financial indicators and eight variables to identify whether a company manipulated profit. Benchmarked company achieved the following results. The variables were again compiled from the company's financial statements. After calculation, we have got an M-score to describe the degree in which profits were handled. In 2014, the M-score was 5.12. In 2015 and 2016, the M-score was around the value of 3. In 2017, the M-score rose again to 4.62. In 2018, the M-score was just 1.19. The M-score was well above the limit value of -2.22 in all years of analysis. It is important to note that these return range size adjustments are based solely on whether or not a company has been identified as a manipulator by having an M-score higher than -2.22. No further analysis of industry, equity or judgment was used in this model. In combination with other forms of analysis, the predictive power of the M-Score maybe even more remarkable. M-score is an incredibly valuable tool for any investor. Unfortunately, although the original research materials on which the M-score is based are available to the public, there is still certain amount of uncertainty about how to use and interpret them. The most concerned are individuals and entities that show M-scores for companies, without providing values for individual variables and analysing the importance behind them. As part of a better understanding of the model, investors can use the M-score to identify potential profit handlers and to predict stock returns better.

3.4. Piotroski Score model

This model helps us to distinguish valuable companies, from those which tend to present unfavourable results based on different ratios, specially compared to previous years. Although this article does not deal with a company that has directly issued shares. Nevertheless, this is a

very interesting model. The model uses and combines relatively well-proven and widespread financial analysis indicators.

Calculations of individual indicators selected by the company reached the following results. Return on Assets was higher than in the previous year, which means 1-point assignment. Cash Flow was higher than Return on Assets and it was also positive compared to the previous year. The Long-Term Debt to Asset Ratio was negative, so the company got 0 points. Increase in Liquidity was negative. Gross Margin was higher compared to the previous year. Increase of Return on Assets had a drawing tendency, so the company got 0 points. Cash Flow from Operations was higher compared to the previous year. The analysed company scored 4 points. This model has also been modified and improved by several authors in recent years and ultimately distinguishes two types of companies. Good (valuable) companies are those with scores ranging from 8-9. Endangered companies are the ones with a score in range of 0 - 1. The analysed company has reached 4 points and therefore is not in any of the groups mentioned above, but somewhere in the middle.

4. Discussion

Submitted article is focused mainly on tools related to fraud detection. However, it should logically be paramount for a company to implement procedures to minimize fraud. In this case, different means of prevention can serve. The main tools include the anonymous line of the company (Kliestik and Majerova, 2015, 538). Among other tools, there is continuous education of employees in the area of fraud and 'Pre-employer screening' and at last, but not least the code of ethics and the overall corporate culture (Durica, Podhorska and Durana, 2019, 51). Therefore, the main purpose of prevention is, in general, to prevent fraud, before it even occurs.

Anonymous helpline is one of the most common ways to detect fraud. The establishment of an anonymous line can act as a strong deterrent in the event of possible fraud. For example, large losses on various investments would result in top managers deciding to maintain favourable results through fraudulent transactions (Nguyen and Rozsa, 2019, 71). These should aim to hide losses outside the general ledgers and seek to cover them over a longer period time (Valaskova, Kliestik and Kovacova, 2018b, 1). Therefore, the main purpose of the anonymous line should clearly be, to avoid similar problems. There should be increase in employee's motivation to report possible fraud. We recommend, that company should introduce so-called anonymous boxes. However, anonymous boxes could be available not only to company employees, but also to individual suppliers or customers.

Pre-employment screening and Etna industry should lead to raise in awareness about fraud prevention and detection. Small and medium-sized companies may be sceptical about it, as this is likely to be another cost item for them. In this case, however, it should be borne in mind, that a wealth of information can also be obtained from various publicly available sources, without incurring any explicit costs (Schaafsma, Mahmud, Reneman, Fassier and Jungbauer, 2016, 14). In addition to internal fraud, such training may also be focused on external fraud. Social engineering is certainly mentioning-worth technique. It is a way of manipulating people that focus on human interactions. It relies in particular on people's willingness to be helpful. The aim is to lure people to circumvent classic security practices (Zhuravleva, Cadge, Poliak and Podhorska, 2019, 56). One of the most common techniques is so-called phishing. Similarly, pre-employment screening is one of the tools that help to improve fraud prevention. It is the case especially for key positions within the company. Finally, fraud is always committed by persons. Therefore, great emphasis should be placed on the selection of honest employees. The scope of such selection differs from the job position. That is why we propose companies to think about the people they employ. They should

certainly check the references from the previous employer. Verification of education and professional licenses, not to mention excerpt from criminal records, etc.

HealthSouth exists either in positive or negative form in every company. We understand it as a set of generally respected values, beliefs and ideas. They are reflected in the specific behaviour of employees, which distinguishes acceptable behaviour from unwanted behaviour (Rădulescu, 2018, 138). It finds its specific form in the behaviour of workers during various situations within the company as well as outside, especially in contact with clients. The primary documents that determine the corporate culture may include a code of ethics. It aims to provide workers with guiding principles or specific guidance (Smimou, 2020, 28). Guidelines for dealing with ethical or with other difficult situations. It can also be a way how to solve the above-mentioned problem of whistleblowing. The appropriateness of implementing the Code of Ethics is based on several presumptions. First of all, it affects the company's reputation, which may be important to gain a competitive advantage. Applying business ethics can also increase the company's reputation. The reputation can later have a direct impact on the increased interest in the offered services. Last but not least, it can also strengthen employee loyalty. The Code of Ethics can be seen as a certain list of rules for the functioning of all members of society. On the other hand, the implementation of the Code of Ethics may be perceived by some small or medium-sized companies rather than an unnecessary waste of time (Pieters, 2019, 595).

5. Conclusion

There is, of course, a huge number of fraudulent acts that involve corruption in various forms. For example, bribery, extortion or conflict of interest, misappropriation of property or fraudulent reporting. Fraud usually starts to a lesser extent. For example, businesses may initially see a small theft only as a temporary loan, which they will repay after overcoming financial difficulties. In the case of undetected, however, it may happen that such action will further intensify.

The specific methods of fraud detection are an example in the Altman, Beneish, CFEBT and Piotroski models. The least known CFEBT model has a very interesting predictive ability. It links the reported profits of the company with its cash flows actually achieved in the medium time horizon. Another possibility for detecting fraudulent activities is clearly the inclusion of well-prepared internal control system of the company.

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DESTINATION IMAGE: DIFFERENCES BETWEEN VARIOUS TOURISTS SEGMENTS

ABSTRACT

Due to high competition on tourism market is has become crucial for destinations to be perceived as areas with positive image. In order to achieve better position on tourism market, destinations must find a way to fulfil special tourists' needs better than others and also to be aware of importance of researching various tourist segments. The main aim of this paper is to investigate the existence of differences between various tourist segments in a perception of destination image based on satisfaction with cognitive and affective dimensions of image and to define the profile of each segment. The empirical research was conducted using highly structured questionnaire on a sample of 600 tourists in a period of April to October 2016 in the City of Dubrovnik, Croatia resulting in 547 correctly fulfilled questionnaires. In order to achieve the main purpose of the paper descriptive and inferential statistics together with latent class model have been applied. The main aim of LC analysis is to define the smallest number of classes that are appropriate to explain the associations observed among the manifest variables. To define the number of dimensions, several LC factors models were estimated. According to the p-values, L2 and BIC index and considering the amount among observed variables, the eight-factor and eight-factor models were selected. The results indicate an existence of eight clusters with different level of satisfaction with cognitive and affective dimensions of image. The results can be useful for local tourism policy makers in a process of developing marketing strategies and local entrepreneurs, in creation of local offerings.

Key words: destination image, segmentation, tourists, Latent Class, City of Dubrovnik.

1. Introduction

Nowadays tourism is one of the biggest boosters of economies round the world. According to UNWTO (2019) international tourist arrivals grew by 5% in 2018. and reached 1.4 billion, the number that, as stated by the same organization, was forecasted to arrive at in 2020. At the same time, total international tourism exports grew to 1.7 trillion USD (UNWTO, 2019). Every year more tourism destinations participate on international tourism market with an aim to attract tourists and gain economic benefit. Competition between tourism destinations is becoming tense forcing destinations to find new ways of attracting tourists. Taking into account the intangibility of tourism product, the image of destination is regarded as one of the crucial elements for gaining competitive advantage for destinations round the world (Echtner i Ritchie, 2003., Chen and Tsai, 2007; Wang and Hsu, 2010) that has a fundamental role in the future success of tourism destinations (Kaur Chauhan and Medury, 2016., Jeong and Kim, 2019.), since it strongly influences the choice of a destination (Prayag and Ryan, 2012.) Also, better understanding of how tourists characteristics influence the perception of destination image is important for destination differentiation and positioning (Prayang, 2010, Yi-De Liu, 2014), and

image based segmentation is very important for destination marketing success (Leisen, 2001). Although the importance of image based segmentation was introduced by Crompton (1979), little effort has been done till now to segment tourists based on the images they have of destination (Leisen, 2001, Fuchs and Pikkemaat 2004, Yi-De Liu, 2014). So this study aims to address this gap in literature by empirically examining the existence of differences between various tourist segments in a perception of destination image based on satisfaction level with cognitive and affective dimensions of image and defining the profile of each segment. Also this study will give answer to the question in which dimensions (cognitive or affective or both) are these differences found and what are the managerial implication(s) of such segmentation.

2. Literature review

2.1. Destination image

Image as a term has been extensively studied by numerous researchers since 1950es starting with the works of Boulding (1956) and Martineau (1958) who suggested that human behaviour depends on perceived image rather than objective one (Jeong and Kim, 2019). This early work influenced on development of the "theory of image" in which, according to Myers, a world is presented "as a psychological or distorted image of objective reality that is created and exists in the consciousness of the individual" (Križman Pavlović, 2008, 91).

The analysis of destination image has been a subject of academic attention for the last forty years. Hunt (1975) was the first to emphasise the importance of this concept. His thesis that the images that potential travellers have is so important in the process of choosing a destination that they can affect its viability, has become an axiom for researchers in the field (Pike, 2007). Today authors agree that destination image is regarded as a multidimensional concept consisting of isolated attributes (Hallman, Zehrer and Muller, 2015) with the most used definition as sums of beliefs, ideas and impressions that people have of an object, a place or a destination (Baloglu and Brinberg, 1997, Beerli and Martin, 2004, Zhang et al, 2014.)

During the decades there have been a few different approaches in the conceptualization and measurement of this concept. One of the most used conceptualization is one defined by Gartner (1993). He stresses the existence of three image components: cognitive, affective and conative one highlighting that interrelations between these components ultimately determine the predispositions to visit destination. From the cognitive component's point of view, the destination image is viewed as a set of attributes that the destination possesses, and these attributes represent the elements of the destination that attract tourists (Beerli and Martin, 2004). The second component is an affective component, that is, one that reflects the personal feelings and motives associated with a particular tourist destination whereby people with different motives may value the destination equally if they perceive that it provides them with the benefits they seek (Baloglu and Brinberg, 1997). The conative or attempting component of an image is one that is often said to be a component of an action. Conation can be understood as the probability of visiting a tourist destination within a certain period (Pike, 2010, 260). The conative component depends on the image created on the basis of the previous two components, resulting in the decision to visit the destination, the decision to delay the visit, or the decision not to visit the destination (Vaughan, 2007).

2.2. Segmentation of tourism market

Tourism segmentation is a process of identification of a group of tourists with the same attitudes, purchase behaviour patterns and hobbies trough marketing programs (Shi, Liu and Li, 2018). By using market segmentation effectively, a tourism destination may achieve many benefits, including competitive advantage (Dolnicar, 2008). There is a large body of empirical

research that has sought to identify differences in the perception of the image of a tourist destination based on the socio-demographic characteristics of the individual such as age, nationality, income, gender, ethnicity or occupation level (MacKay and Fesenmaier, 1996., Baloglu, 1997, Beerli and Martin, 2004b, Tasci, Gartner and Cavusgil, 2007, Kesić and Pavlić, 2011, Wang and Hao, 2018). Also psychological characteristics of individuals were used to determine the differences in perception of destination image. Motivation is taken as a central element that helps to understand the behaviour of tourists and the choice of tourist destination as it is at the back of all actions (Baloglu and McCleary, 1999). Many authors agree that motivation influences the formation of destination image directly and indirectly (Beerli and Martin, 2004b) as well as destination selection itself (Baloglu and McCleary, 1999). A direct link between psychological factors and affective image has been found in the research of Baloglu and Brinberg (1997) and Gartner (1993), which means that people with different motives can evaluate a destination in a similar way if its perception meets their needs. So, understanding image perceptions in relation to travel motivation is very important to destination marketing as they are seen as one of the key variables in explaining tourist behaviour and, if adequately measured, can serve as segmentation variable (Fucks and Pikkemaat, 2004). Traveling characteristics such as purpose of visit, length of stay and traveling party size were found to impact visitors perceptions of place confirming their effectiveness as segmentation variables (Prayag 2010) and the effects of destination familiarity on destination image has been used by some authors with the same aim (Baloglu and Mangaloglu, 2001, Beerli and Martin 2004a, 2004b).

However, there have been only a few attempts to segment tourists based on the image they have of a destination. The importance of tourists' perceptual heterogeneity when destination images are studies has been high lightened in the study by Dolnicar and Huybers (2007). They gave a typology of destination image measurement approaches providing a framework for past image studies evaluation. They work underlined the existence of a limited number of studies where destination image is analysed at segment level "even if no clear a priori segments are known to exist" (Dolnicar and Huybers, 2007, p 4.). Leisen (2001) conducted a surveyon 923 respondents in eight US states to capture tourist images of New Mexico as tourism destination. The results using cluster analysis indicated the existence of four different segments based on the perception of natural, cultural, recreational and climate amenities of image that range from very favourable to the least favourable image. Fuchs and Pikkemaat (2004) made a research on 240 Polish students in Austria and 390 Austrian students in Poland. Using factor and cluster analysis their research resulted in the extraction of three different clusters outlining that image perceptions of a destination can be used to define reliable market segments. Prayag (2010) did a research on 585 visitors of Cape town using factor cluster segmentation approach which resulted in extraction of four different clusters, on the basis of perception of twenty pull destination attributes (cognitive ones). Liu (2014) used image based segmentation approach on 954 respondents to divide cultural tourism market in Taiwan which resulted in the extraction of four different segments from K means cluster analysis. Choi and Fong (2017) made a typology of 1497 gaming tourists based on perception of destination image of Macau using cluster analysis. The result was the extraction of four clusters namely, gaming lovers, exotic lovers, reasonable budget seekers and convenience seekers.

3. Methodology

To achieve the main goal of the paper and to answer research question empirical research was carried out using convenience purposive sample of 600 tourists visiting Dubrovnik, Croatia. The questionnaire was distributed to hotels and private accommodation units. The research was

conducted from April to October 2016. Of the initial sample, 547 questionnaires were fulfilled correctly. The sample profile is summarized in Table 1.

Data was collected through a highly structured questionnaire consisting of questions based on the literature review. For this research only a part of a broader questionnaire was used. The first part of the questionnaire consisted of the questions about socio-demographic characteristics of tourists and the items regarding travelling partners, length of stay and type of accommodation used. The second part of the questionnaire included 35 destination image elements (cognitive and affective ones).Tourists have been asked to rate their level of satisfaction with each item on the five-point Likert scale (1=totally unsatisfied; 5=completely satisfied).

To achieve the main objective of the paper descriptive statistics together with factor analysis and latent class model have been applied. Reliability of the items has been tested applying item-total correlation values and Cronbach's alpha coefficient. Factor analysis was applied to verify the dimensionality of the construct defined by items and scale evaluations were measured applying latent class analysis (criterion and construct validity).

Although latent class (LS) model was introduced by Lazarsfeld at the beginning of 1950es (1950), Green, Carmone and Wachspress (1976) were the first to apply it to market segmentation. LC models determine unobserved heterogeneity in a population with the purpose to discover substantively meaningful groups of people with similar responses to measured variables based on probability (Nylund, Muthen, and Asparouhov, 2007; Hamka et al., 2014). LC models estimate the parameters of the class membership model and clarify how, conditional on a certain class, an individual will behave, as well as it presents estimates of the size of the segments (Sell, Mezei and Walden,2014). Tourists' satisfaction with destination was investigated with respect to cognitive and affective dimensions of image using LatentGOLD 5.1 software.

4. Results

Table 1: Respondents' profile

Demographic characteristics	TOURISTS	
	Frequency	Percentage
Age		
18-25	6	1.1
26-35	83	15.2
36-45	47	8.6
46-55	28	5.1
56-65	173	31.6
66 and over	210	38.4
Gender		
Male	192	35.1
Female	355	64.9
Education		
Primary School	16	2.9
Secondary school	92	16.8
Undergraduate	82	15.0
Graduate	237	43.3
Postgraduate	120	21.9

Demographic characteristics	TOURISTS	
	Frequency	Percentage
Personal monthly income (in EUR)		
-500		
501-1.000	40	7.3
1.001-1.500	43	7.9
1.501-2.000	83	15.2
2.001-2.500	113	20.7
2.501-3.000	226	41.3
3.001-3.500	11	2.0
3.501-4..000	9	1.6
4.001-4.500	11	2.0
4.501-5.000	1	0.2
5501-	8	1.5
	2	0.4
Country of origin		
USA	88	16.1
Germany	55	10.1
UK	205	37.5
Ireland	28	5.1
France	71	13.0
Canada	38	6.9
S Korea	15	2.7
Israel	13	2.4
Russia	7	1.3
Sweden	15	2.7
Other	12	2.2

Source: Authors' research

In regards to gender structure, almost 2/3 were female. Considering the age groups, 16.3% of respondents belong to the age group from 18 to 35 years and 70 % are aged 56 and above. The education structure showed that 43.3% have completed graduate level, 21.9 % postgraduate and 16.8% secondary school. 92% of respondents have personal monthly income below 2500 EUR. Regarding country of origin, 37.5 % come from UK, 16.1 % from USA, 13% from France and 10.1% from Germany.

By applying reliability analysis two items were excluded from further analysis, namely "good signage for visitors" and "level of noise in surroundings" lowering the number of items to thirty three for the further analysis. Factor analysis was used to identify the underlying dimensions of thirty three destination image items which resulted in the extraction of six different factors, which are called: Satisfaction with culture (sat_culture, 5 items, Cronbach's Alpha=0,721), Satisfaction with natural surroundings and security (sat_nature and security, 8 items, Cronbach's Alpha=0.822), Satisfaction with fun and shopping possibilities (sat_fun and shopping, 6 items, Cronbach's Alpha=0.696), Satisfaction with gastronomy and beverages (sat_food and drinks, 4 items Cronbach's Alpha=0.651), Satisfaction with value for money (sat_value for money, 3 items Cronbach's Alpha=0.620) and Satisfaction with atmosphere in destination (sat_atmosphere, 7 items, Cronbach's Alpha=0.705). Kaiser-Meyer-Olkin Measure of Sampling Adequacy was 0.792 and the result of Bartlett Test of Sphericity was significant at 0.000 confidence level.

Table 2: Estimation of the model – selection of latent clusters

		LL	BIC(LL)	Npar	L^2	df	p-value	Class.Err.
Model1	1-Cluster	-3541.39	7227.783	23	6867.101	524	0.000	0
Model2	2-Cluster	-2599.27	5425.505	36	4982.865	511	0.000	0
Model3	3-Cluster	-1918.46	4145.839	49	3621.241	498	0.020	0.0003
Model4	4-Cluster	-1606.72	3604.316	62	2997.76	485	0.037	0.0005
Model5	5-Cluster	-1418.46	3309.756	75	2621.243	472	0.044	0.0004
Model6	6-Cluster	-1202.67	2960.128	88	2189.657	459	0.048	0.0003
Model7	7-Cluster	-1129.22	2895.183	101	2042.753	446	0.059	0.0003
Model8	**8-Cluster**	**-987.119**	**2692.945**	**114**	**1758.557**	**433**	**0.065**	**0.0087**
Model9	9-Cluster	-953.943	2708.551	127	1792.206	420	0.047	0.0016
Model10	10-Cluster	-860.254	2603.132	140	1804.829	407	0.036	0.0002

Source: Authors' research

The factor scores were used as indicators in the latent class model (Table 2). A set of latent class cluster models with a growing number of classes were estimated. According to p values associated with L^2 statistic which shows the level of association between the variables that remain unexplained after the model estimation (Ramirez-Hurtado and Berbel-Pineda, 2014), two models fit better than others, eg. models with seven and eight latent classes. L^2 statistics is the lowest in the Model 8. Also, an eight cluster model shows minimum BIC index (Vermunt and Magidson, 2005). Therefore, findings indicate an optimal solution of eight tourists segments that minimize the BIC index –2692.945. Wald test from Table 3 shows that all exploratory variables (factors) are significant for the model (p<0.05).

Table 3: Model for indicators

Models for Indicators											
	Cluster1	Cluster2	Cluster3	Cluster4	Cluster5	Cluster6	Cluster7	Cluster8	Wald	p-value	R2
Sat_culture	1.543	6.8071	-7.329	5.8681	-12.47	-13.49	6.2475	12.822	82.91	0.00	0.9008
Sat_nature and security	10.93	0.572	-6.281	9.9701	-9.01	-15.72	1.0206	8.5138	85.04	0.00	0.9333
Sat_fun and shopping	9.962	-0.408	3.4832	8.9981	-7.494	-13.45	-8.63	7.5437	127.8	0.00	0.9279
Sat_fod and drinks	6.341	16.049	-5.267	10.408	-1.439	-10.66	-10.63	-4.807	135.1	0.00	0.9676
Sat_value for money	6.269	2.0382	-1.236	5.3086	-5.877	-9.302	-1.073	3.8718	64.47	0.00	0.8568
Sat_atmosphere	4.268	13.445	-1.291	11.76	-10.63	-17.52	-4.455	4.4227	81.13	0.00	0.9111

Source: Authors' research

As a result of this analysis, the latent variable can be described by eight classes of tourists with different level of satisfaction with cognitive and affective dimensions of destination image. Each class is big enough to be considered as relevant for the purpose of analysis and with a profile of consumers belonging to them as different.

Table 4: Description of segments

		Cluster1	Cluster2	Cluster3	Cluster4	Cluster5	Cluster6	Cluster7	Cluster8
Cluster Size		0.3291	0.2614	0.1462	0.1256	0.0476	0.0313	0.0294	0.0294
Indicators									
Sat_culture									
	1	0	0	0.0023	0	0.8066	0.9234	0	0
	2	0	0	0.087	0	0.1824	0.075	0	0
	3	0.007	0	0.8929	0.0001	0.011	0.0016	0.0001	0
	4	0.9918	0.8045	0.0178	0.9132	0	0	0.8781	0.01
	5	0.0012	0.1954	0	0.0867	0	0	0.1219	0.99
Mean		3.9943	4.1954	2.9262	4.0866	1.2044	1.0782	4.1218	4.99
Sat_nature and security									
	1	0	0	0.0002	0	0.0107	0.9188	0	0
	2	0	0	0.1918	0	0.7771	0.0811	0	0
	3	0	0.1069	0.8013	0	0.212	0	0.0692	0
	4	0.0006	0.8489	0.0067	0.0016	0.0001	0	0.8606	0.0068
	5	0.9994	0.0442	0	0.9984	0	0	0.0702	0.9932
Mean		4.9994	3.9372	2.8145	4.9984	2.2016	1.0812	4.0009	4.9932
Sat_fun and shopping									
	1	0	0	0	0	0.0015	0.9792	0.0139	0
	2	0	0	0	0	0.0095	0.0165	0.0291	0
	3	0	0.0372	0.0002	0	0.9696	0.0043	0.9509	0
	4	0.0004	0.8902	0.2002	0.001	0.0194	0	0.0061	0.0043
	5	0.9996	0.0726	0.7996	0.999	0	0	0	0.9957
Mean		4.9996	4.0353	4.7995	4.999	3.0069	1.0252	2.9492	4.9957
Sat_food and drinks									
	1	0	0	0.0019	0	0	0.9895	0.9888	0.5008
	3	0.0017	0	0.9928	0	0.8044	0.0105	0.0112	0.4909
	4	0.9967	0.0359	0.0052	0.913	0.1956	0	0	0.0083
	5	0.0016	0.9641	0	0.087	0	0	0	0
Mean		3.9999	4.9641	3.0014	4.0869	3.1956	1.021	1.0223	2.0068
Sat_value for money									
	1	0	0	0.0065	0	0.5648	0.9756	0.0047	0
	2	0	0.0002	0.5148	0	0.4334	0.0244	0.4401	0
	3	0	0.0022	0.2249	0	0.0018	0	0.2262	0.0001
	4	0.0005	0.0304	0.1152	0.0012	0	0	0.1362	0.005
	5	0.9995	0.9671	0.1386	0.9988	0	0	0.1928	0.9949
Mean		4.9995	4.9645	2.8648	4.9988	1.4371	1.0244	3.0724	4.9949
Sat_atmosphere									
	1	0	0	0	0	0.0111	0.9191	0	0
	2	0	0	0.0012	0	0.9678	0.0809	0.0798	0
	3	0.4015	0	0.2846	0	0.0211	0	0.8319	0.0013

	Cluster1	Cluster2	Cluster3	Cluster4	Cluster5	Cluster6	Cluster7	Cluster8
4	0.5968	0.0567	0.7142	0.2446	0	0	0.0883	0.9967
5	0.0017	0.9433	0	0.7554	0	0	0	0.002
Mean	3.6055	4.9433	3.7131	4.7554	2.01	1.0809	3.0084	4.0007
Covariates								
Gender								
Female	0.7291	1	0.6375	0.1099	0.1923	0	0.0625	1
Male	0.2709	0	0.3625	0.8901	0.8077	1	0.9375	0
Mean	1.2709	1	1.3625	1.8901	1.8077	2	1.9375	1
Age								
18-25	0.0111	0.035	0.4625	0.4949	0.3846	0	0.0625	0
26-45	0.1962	0.021	0.225	0.2712	0	0	0	0
46-65	0.1641	0.8182	0.3	0.006	0.0385	0.0588	0	0
65+	0.6286	0.1259	0.0125	0.2279	0.5769	0.9412	0.9375	1
Mean	5.2388	4.965	3.3125	3.3105	4.4231	5.9412	5.6875	6
Area of living								
Rural Area (less than 2000 inhabitants)	0.0358	0	0	0.1244	0	0.9412	0	0
Smaller town (from 2.001to 10.000)	0.3549	0.1119	0	0	0	0.0588	0	1
Town (from 10001 till 100.000)	0.3541	0.8392	0.3625	0.8756	0	0	0	0
City (100.001 +)	0.2551	0.049	0.6375	0	1	0	1	0
Mean	2.8286	2.9371	3.6375	2.7512	4	1.0588	4	2
Travelling company								
Alone	0.2848	0	0.1375	0.1112	0	0.0588	0.1875	1
With spouse/partner	0.6652	0.0839	0.7625	0.7288	1	0.9412	0.75	0
with family	0.0333	0.0909	0.1	0.1018	0	0	0.0625	0
with friends	0.0166	0.8252	0	0.0582	0	0	0	0
Mean	1.7817	3.7412	1.9625	2.107	2	1.9412	1.875	1
Length of stay								
2-3 days	0.0657	0.3496	0.1625	0.2788	0.2308	0.8824	0.1875	0.75
4-5 days	0.1492	0.1259	0.25	0.0887	0.0385	0.0588	0.0625	0
6-7 days	0.4469	0.4615	0.5	0.3701	0.4615	0.0588	0.75	0.0625
More than 7 days	0.3382	0.0629	0.0875	0.2624	0.2692	0	0	0.1875
Mean	4.1821	3.2378	3.5125	3.7258	3.7692	2.1765	3.5625	2.625
Accommodation								
hotel 5*	0.2524	0.0699	0.5625	0.0945	0.1923	1	0.125	1
hotel 4*	0.5191	0.8811	0.225	0.1224	0.5769	0	0.8125	0
hotel 3*	0.1544	0.014	0.1125	0.177	0	0	0	0
private accommodation	0.0741	0.035	0.1	0.6061	0.2308	0	0.0625	0
Mean	2.1244	2.0489	1.85	3.9008	2.5	1	2.0625	1

Source: Authors' research

As seen from Table 4 the largest cluster (Cluster 1) includes 32.9% of respondents. These tourists have highest level of satisfaction with mean value of 4.99 with natural surroundings and security (scenic and natural beauty, varied landscape, environmental preservation,

cleanliness of the site, air quality, drinking water quality, good waste management, security and safety) fun and shopping possibilities (variety of special events, possibilities for shopping, reasonable prices for entertainment, variety of shops, availability of good souvenirs and crafts, reasonable prices in shops) and value for money (good value for money for entertainment, for cultural offerings and gastronomic offer). They show the lower level of satisfaction (mean 3.99) with cultural offerings (good experiences in involving in local culture, maintaining and accessing cultural sites, conserving traditional culture and customs, diversity of cultural/historical attractions and reasonable prices for cultural activities) and gastronomy and beverages offerings (quality of food and beverages, local cuisine, good quality of services in restaurants and caffe bars). The lowest level of satisfaction (mean 3.60) is expressed with atmosphere in destination which includes items about friendliness of local people, relaxing, exciting, pleasant and peaceful atmosphere, good variety of experiences and enjoying experiences in destination. 72% of respondents are female, mostly over 65 years old (62.8%) equally living in towns and small towns who travel with spouse (66.5%) or alone (28.4% stay 6-7 days (44.6%)) and mostly use four star hotels as accommodation units during their holiday (1.9%) while a quarter of them (25.2%) stay in five star hotels.

Second cluster includes 26.1% or respondents who express the highest level of satisfaction with gastronomy and beverages offerings (mean 4.96), value for money (mean 4.96) and atmosphere in the destination (mean 4.94) These respondents are the least satisfied with natural environment and security in destination (mean 3.93). All respondents are female, mostly aged between 46 and 65 years (81.8%), who live in towns, and small towns, travel with friends (82.5%), stay between 6 and 7 days (46.1%) in four star hotels (88.1%).

The third cluster comprises of 14.65% of respondents who show the highest level of satisfaction with fun and shopping possibilities (mean 4.79) and atmosphere (mean 3.71) and lowest level with natural surroundings and security (mean 2.81). With other factors (culture, gastronomy and beverages, value for money) they express neither dissatisfaction nor satisfaction with mean values round three. These respondents are mostly women (63.7%) aged between 18 and 25 years (46.2%) who live in big cities (63.7%), mostly travel with partner or spouse (75%), stay between 6 and 7 days in five star hotels (56.5%)

Fourth cluster has 12.5% of respondents who are very satisfied with natural surroundings and security of destination, with fun and shopping possibilities and value for money (all means 4.99. The lowest level of satisfaction, although it is still high level, they express with culture offerings and gastronomy in destination (mean 4.08). This cluster represents mostly young men (89%) aged from 18 to 25 (49.4%) who live in towns, travel with spouse or partners (72.8%), stay from 6 to 7 days (37%) and stay in private accommodation (60.6%).

Fifth cluster includes 4.7% of respondents. These respondents show very low level of satisfaction with some factors. The lowest level of satisfaction is with culture offerings (mean 1.20) and value for money they get (mean 1.43), following with low level of satisfaction with atmosphere in the destination (mean 2.01) and natural surroundings and safety (mean 2.20). The show indifference with the level of satisfaction with fun and shopping possibilities (mean 3.0) and gastronomy and beverages offerings (mean 3.19). Cluster members are mostly men (80.7%) above 65 years of age (57.6%) who live in cities (100%),travel with spouse or partner (100%), stay 6-7 days in destination, (46.1%), mostly in four star hotels (57.6%) and private accommodation (23.8%).

There are 3.1% of respondents in cluster six. These tourists express the lowest level of satisfaction with all cognitive and affective dimensions of image in comparison to all other clusters. The mean value for all six components is 1. Those respondents are all men above 65

years (94.1%) from rural areas (94.1%) who travel with spouse or partner (94.1%), stay 2-3 says (88.2%) in five star hotels.

Cluster number seven has 2.94% of all respondents. They show the highest level of satisfaction with culture offerings (mean 4.12) and natural surroundings and security (mean 4.0) in destination. The lowest level of satisfaction is with gastronomy and beverage offerings (mean 1.02), while they are indifferent with the rest of destination elements. Respondents are mostly men (93.7%) above 65 years (93.7%), who live in cities, travel with spouse or partner (75%) or alone (18.7%), stay 6-7 days (75%) in four star hotels (81.2%).

The last cluster is cluster eight which includes 2.94% of respondents. These respondents show very high level of satisfaction with cultural offerings, natural surroundings and security, fun and shopping possibilities and value for money (all means 4.99). The lowest level of satisfaction with a mean value of 2 is in the category of gastronomy and beverage offerings. Respondents belonging to this cluster are all women above 65 years of age, who live in smaller towns, travel alone and mostly stay 2-3 days in destination (75%) or more than 7 days (18.7%). In the destination they choose five star hotels for their stay.

5. Discussion and conclusion

The main objective of this paper was to identify the differences between various tourist segments in a perception of destination image based on satisfaction with cognitive and affective dimensions of image and to define the profile of each segment. This paper tested the effectiveness of using image based segmentation approach to identify segments of tourists visiting city of Dubrovnik. The results confirm the existence of eight segments. In the process of comparison between clusters based on the level of satisfaction with all factors it can be seen that two clusters, namely cluster two (mean 4.50) and cluster four (mean 4.64), are completely satisfied although with different elements (in cluster two with gastronomy and atmosphere in the destination, and in cluster four with natural surroundings and fun and shopping possibilities). Cluster one (mean 4.42) and cluster eight (mean 4.32) are satisfied, while clusters three (mean 3.34) and seven (3.02) express neither dissatisfaction nor satisfaction with elements of destination image. Respondents in cluster five are generally unsatisfied (mean 2.17) and in cluster six totally unsatisfied (mean 1.04%) with cognitive and affective elements of destination image. Most favourable and the least favourable images for every cluster are presented forming a starting point for defining marketing strategies. Socio demographics such as gender, age and area of living are used to further describe segments as well as the characteristics regarding travelling partners, length of stay in destination and type of accommodation used. So, results indicate the usefulness of latent class segmentation in defining the segments based on satisfaction level with cognitive and affective dimensions of destination image. Besides providing information on different segments latent class analysis also allows us to rate these segments taking into account the probability that the individuals included in them will present a certain pattern of behaviour which at the end could help in designing the specific strategy for each segment.

From a theoretical perspective it is difficult to compare this study to other studies that used a posteriori segmentation based on the perception of images due to different methodologies applied. However there are certain similarities with the Leisen study (2001) in terms of the existence of a range of different satisfaction levels from totally unsatisfied to completely satisfied segments. In terms of managerial implications the results provide suggestions for management in destination. Today tourism industry is experiencing a large growth in the number of destinations making international tourism market a battlefield where every destination is fighting for bigger economic revenues. In this "battle" tourism marketers have to

find additional leverages to stay competitive and to be chosen by potential tourists. Positive destination image is one of the options since it is known that destinations with such an image have higher possibility to be chosen by potential tourists (Whang and Tsu, 2010). Since destinations are having limited promotional budgets it is essential for them to be able to use it with maximum efficiency,.e.g. for further improving of positive image, changing neutral to positive and correcting negative one which can generate higher number of tourist arrivals. Marketing communication must be focused on those market segments which are considered to be the most profitable for the destination making marketing segmentation a starting base for generating revenues. This research has made that possible.

This paper should be seen in the lights of its limitation. Data used for this research was collected using purposive sample so results cannot be generalised. Second, the collection of data was from April till October, capturing low and high season which could affect the level of satisfaction with different cognitive and affective dimensions of destination image. Third, replicating this study in other destinations would, most probably, produce different segments taking into the account the specific elements of cognitive and affective dimensions of different destinations.

Future research can use this research design and explore the existence of additional market segments in different destinations. Also separate researches should be done is different parts of the season (low, high and out of season) on representative sample of tourists to see the possible differences of satisfaction level with cognitive and affective dimensions of destination image which can influence on the existence of additional market segments.

The contribution of this paper is two-sided. Academically, the contribution lies in the use of latent class analysis in the process of a posteriori segmentation based on the images of destination. From a practical point of view the results of this research can be useful for local tourism marketers in forming marketing strategies for different market segments and local entrepreneurs in different areas (culture, fun, shopping, and gastronomy) in creation of local offerings. This could, in the future, be reflected trough more favourable image minimising the number of market segments whose perception of destination image is neutral or negative.

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A scientific paper

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HOTEL MANAGERS' BELIEFS ON THE RELATION BETWEEN TOURISM AND CLIMATE CHANGE

ABSTRACT

This paper starts from the presumption of an interconnection between climate change and tourism as well as from the importance of knowing the beliefs and attitudes of managers in the tourist accommodation industry as key persons in tourism management and as decision-makers and key actors in the implementation of environmental protection and development of business policies in the area of sustainable development inseparable from the impact of climate change. The main objective of this study was to analyse whether certain characteristics of tourism accommodation. Several factors have been analysed such as types of accommodation, type of guests, orientation on wellness and SPA, accommodation locations in the coastal or continental regions, the seasonality of the business, as well as the possession of a clearly defined environmental policy determine the beliefs and attitudes of managers on climate change issues and the impact of climate change and tourist accommodation.

The survey was focused on 1,084 facilities, representing the total population of all facilities categorized by type as hotels and apart-hotels, tourist resorts and tourist apartments, as well as camps and marinas in the Republic of Croatia.

Consequently, the beliefs and attitudes of managers in tourist accommodation are the result of various characteristics of those facilities. Stronger pro-ecological attitudes and higher levels of ecological awareness about climate change and the connection between climate change and tourist accommodation are shown by managers working in: tourist accommodation facilities of a higher category, tourist accommodation facilities located in coastal regions; tourist accommodation facilities that work all year round; tourist accommodation facilities that have a strong orientation towards the spa/wellness amenities; tourist accommodation facilities that have a clearly defined quality control policy and environmental protection; as well as tourist accommodation facilities aimed at organized groups and family holidaymakers.

Key words*: climate change, tourism, managers, beliefs.*

1. Introduction

Tourism is one of the fastest growing global industries and plays a significant role in national and local economies. Global climate change, as well as sustainable development, especially from the point of view of the research on beliefs and attitudes on climate change among tourism stakeholders is the current area of research by a limited number of scientists around the world. In spite of that, tourism as a whole, especially transport related to arrivals and departures of tourists to destinations, and tourism accommodation *per se,* significantly contribute to global warming through greenhouse gas emissions and a significant carbon footprint of tourism (Aripin et .al., 2018; Gosling, 2002; Gosling, 2005; Gosling, 2012; Farid, 2016; Becken & Hay, 2007).

Knowledge of managers' attitudes and beliefs is extremely important in order to anticipate, plan and direct the use of mitigation measures and the prevention of negative impacts of climate change and the tourist accommodation industry. All subjects directly or indirectly linked to tourism should adapt in a suitable way to the new situation and minimize as far as possible the more negative consequences of climate change (Bohdanwitz, 2005; Bohdanowitz et al. 2011).

The concept of this study is related to the theory according to which attitudes are formed in the processes of socialization and are acquired on the basis of direct experience with the object of the attitude or indirectly, in interaction with the social environment. Attitude is defined as an acquired tendency to react either positively or negatively to persons, objects, or situations outside of us or to one's own qualities, ideas, or actions (Zvonarević, 1985: 124).It is also defined as evaluation of people, objects or ideas (Ajduković, Sladović Franz & Kamenov, 2005: 42).

According to Rosenberg's three-component structure, an attitude is a whole made up of cognitive (what an individual thinks of an object of attitude), emotional or affective (what an individual feels about an object of attitude) and conative or behavioral components (how an individual behaves toward an object of attitude). This model of attitude structure is also called the ABC model (affect, behavior, cognition) (Jain, 2010). This research is based on the analysis of the results of only a few existing previous studies conducted in Croatia (Petrić & Pranjić, 2010) or in the world (Okumus, 2019, Deng, Ryan & Moutinho, 1992, Kirk, 1998). Those papers have showed that in the attitudes of tourism workers (in the case of the above studies, in the attitudes of hoteliers) environmental issues are considered important. However, it remains unclear whether the hotelier's attitudes towards environmental issues are a function of certain characteristics of the accommodation facility, such as its size, category, location, purpose, seasonality, length of business, type of ownership, possession of written environmental policies. Specifically, some studies indicate that there are statistically significant differences in the attitudes of hoteliers working in tourist facilities with different characteristics or orientations (Deng, Ryan & Moutinho, 1992), while the only national survey from 2010 showed no differences in the attitudes of tourism managers depending on the observed characteristics of the tourist accommodation facility (Petrić & Pranjić, 2010). An unambiguous response was also lacking at the level of other and unfortunately limited number of studies conducted in various parts of the world. Due to the lack of related research, only relevant works were used as references, and we are aware that these are relatively older works. Unfortunately, no recent research in the world has been conducted on this topic. A milestone study by Park et al. (2014) showed that the size of the hotel and the independence of management and business, that is, the attachment to hotel chains, significantly influence the expressed views of managers on environmental engagement, the results being opposite to those of Deng, Ryan & Moutinho, (1992). Park's study showed that managers in smaller and individual facilities are more environmentally conscious than managers who are involved in larger facilities, as well as facilities included in hotel chains, which is contrary to the results of Deng's (1992) research. It

is important to emphasize that in a study conducted by Petrić and Pranjić (2010), respondents expressed a strong positive preference of hoteliers for environmental issues. The results of these studies strongly suggest the need for further research, and were a strong impetus for this study in order to try to clarify concerns which earlier studies have left unresolved.

2. Aim

The study focused on the beliefs and attitudes of tourism managers on the relationship between climate change and tourism. This paper starts from the presumption of an interconnection between climate change and tourism. The work appreciates the importance of knowing the beliefs and attitudes of management in the tourist accommodation industry as key persons in tourism management and as decision-makers and key actors in the implementation of environmental protection and development of business policies in the area of sustainable development which is inseparable from climate change impact. The main objective of the study was to analyse whether certain characteristics of tourism accommodation such as types of accommodation, type of guests, business orientation through wellness and SPA services, accommodation locations in the coastal or continental regions, the seasonality of the business, as well as the possession of a clearly defined environmental policy determine the beliefs and attitudes of managers on climate change issues and the impact of climate change and tourist accommodation.

3. Hypotheses

The starting hypothesis of this study is based on the assumption that there are significant differences in beliefs and attitudes about the interplay of climate change and tourist accommodation among managers employed in managerial positions in different tourist accommodation facilities that differ from each other with respect to certain characteristics of facilities. The characteristics examined in the present study are the same characteristics that were highlighted in the few papers in the described area (Park, 2014, Deng, 1992, Pranjic & Petrić, 2010, Chen, 2019) such as the category of a star-rated object, possession of SPA and wellness service offers, seasonality of business, orientation towards a certain type of guest, possession of a written statement on the environmental quality policy, either as a standalone document or in the way that the environmental quality policy is contained in one of the valid business quality certificates, and the location of the facility in the coastal part of Croatia versus the continental parts of Croatia. The literature has suggested that multi-star hotels, SPA hotels, family-oriented hotels, quality policies, and which depend on year-round business, focus more on environmental protection (Park, 2014, Deng, 1992, Pranjic & Petrić, 2010).

4. Methodology

4.1 Sample and sampling

The study included managers from 1,084 individual tourist accommodation establishments from the territory of the entire Republic of Croatia included in the list of categorized objects on the web pages of the Ministry of Tourism as of March 7, 2019. The survey included categorized hotels and apart-hotels, hotel and apartment complexes, categorized campsites, and marinas. It was conducted using online surveys and was completely anonymous, with targeted distribution of survey questionnaires, i.e. calls through professional associations and competent bodies and chambers in the period from April to June 2019.

4.2. Data processing

Data processing was performed using Microsoft Excel spreadsheet software. Kolmogorov-Smirnov's test analysed the distribution of continuous numerical values, and according to the obtained data corresponding non-parametric tests were applied. Categorical and nominal values are shown using corresponding frequencies and shares. Continuous values are shown using medians and interquartile ranges, and the differences between them are analysed using the Kruskal-Wallis test and the post-hoc Mann-Whitney U test. In order to analyse the share and contribution of each component of the attitude to the overall expressed level of environmental awareness, some total factor scores (given the different number of questions involved) were converted to a scale from 0 (least agreement / no agreement with each factor) to 100 (complete agreement with a factor) according to the formula in which "the numerator is formed by the difference of the scores of the ladder of each factor, reduced by the smallest possible amount of the ladder of the factor, the denominator represents the possible range of the ladder of factors, and the result is multiplied by one hundred" (Milošević, 2011, 39). Orientation to the right (higher score) is a pro-ecologically friendly behaviour or understanding of the pattern, consequences, and correlation of phenomena with global warming and climate change.

5. Results

5.1. Respondents' description regarding the characteristics of the object

From the total of 1,084 categorized tourist accommodation establishments, the survey collected a total of 283 fully completed questionnaires, which represent a response rate of 26.1%, which is almost identical to the response in the 2010 survey (Petrić & Pranjić, 2010). The analysis of the collected data shows that 39 (13.78%) respondents responded to 2-star objects, 111 (39.22%) related to 3-star objects, 112 (39.58%) to 4-star objects and 21 and 7.42% to objects with 5 stars. Furthermore, 138 (48.76%) respondents are connected to tourist accommodation facilities where there is a possibility of using swimming pools, fitness rooms, SPA and wellness services and facilities, compared to 145 (51.24%) of those connected to tourist accommodations that do not have SPA and wellness facilities or various forms of sports or fitness facilities. The conducted analysis of the respondents according to their connection to tourist accommodation establishments of different business type according to the season showed that 178 (62.90%) of the respondents came from tourist accommodation establishments that work only during the summer season, while 105 (37.10%) of the respondents were from tourist accommodation establishments that operate on a year-round basis. Observed by the type of guests according to which tourist accommodation establishments are predominantly oriented, 71 (25.09%) respondents were from tourist accommodation establishments primarily focused on an individual guest, 126 (44.52%) respondents were from objects primarily directed towards family guests, 65 (22.97%) respondents were from tourist accommodation establishments primarily directed towards organized groups, and 21 (7.42%) respondents were from accommodation tourist establishments primarily directed towards "other" types of guests. Finally, the aim was to compare the beliefs and attitudes of the respondents depending on whether the facilities they manage have a written statement of the environmental quality policy either as a standalone document or as contained in one of the valid business quality certificates in comparison with those which do not have such a document. The survey involved 120 (42.40%) respondents who were from the group of objects which have the document and 163 (57.60%) respondents from the other group of objects which do not have such a document. In conclusion, according to the geographical location of the facility, the majority of the respondents who participated in the survey were related to tourist accommodation facilities,

244 (86.22%) were located in coastal Croatia, while a smaller proportion, 39 (13.78%), was attached to facilities located in continental Croatia. This data corresponds to the distribution of accommodation facilities in the total distribution of tourist accommodation facilities on the Croatian level, according to which 90% of the facilities are located in coastal counties.

5.2. Testing differences in managerial attitudes with regard to individual characteristics of a tourist accommodation facility

The results of the survey were shown in the following tables. In order to answer the research questions and confirm or reject the hypothesis, *post hoc* comparisons of p values were performed in each of the three component domains (cognitive, affective, and conative) for each of the observed characteristics of the tourist accommodation facility (categorization of tourist accommodation facilities), the availability of SPA and wellness services and facilities, the seasonality of business, the type of guests towards which tourist accommodation facilities are oriented, the possession of a quality and environmental protection policy, and the location of the tourist accommodation facility within Croatia in relation to coastal or continental counties).

Table 1: Testing the statistical significance of differences in respondents' attitudes for the cognitive component of attitude

| | | Cognitive component | | | | | | | | P | |
		N	SV	SD	Minimum	Maximum	Percentile 25	Median	Percentile 75		
Object categorization	2 stars	39	51.65	16.95	24.24	90.91	38.64	46.97	59.85		
	3 stars	111	57.94	18.84	22.73	95.45	40.15	59.09	73.48	<0.001	
	4 stars	112	76.21	8.54	52.27	91.67	70.83	78.03	81.82		
	5 stars	21	77.42	14.72	19.70	93.18	75.00	80.30	84.09		
Availability and possibility of using the pool, room, SPA, and wellness facilities	No	145	56.99	19.23	22.73	95.45	39.39	56.06	72.73	<0.001	
	Yes	138	74.96	10.78	19.70	93.18	69.70	76.52	81.82		
Type of business	Seasonal business	178	63.22	17.74	22.73	95.45	50.76	68.18	78.03	<0.001	
	Year-round business	105	70.04	17.88	19.70	93.18	59.85	75.00	82.58		
Type of guest	Organized groups	65	70.20	15.87	22.73	90.91	65.15	75.00	81.06		
	Family guests	126	65.19	17.69	24.24	95.45	51.52	70.45	79.55	0.013	
	Individual guests	71	60.97	19.86	19.70	89.39	41.67	64.39	80.30		
	Others	21	71.50	16.64	28.79	90.91	59.85	79.55	81.06		
Environmental quality policy as a standalone document	No	163	57.82	18.21	22.73	95.45	40.91	58.33	73.48	<0.001	
	Yes	120	76.52	10.89	19.70	93.18	71.59	80.30	82.95		
Location	Coastal Croatia	244	67.80	16.99	19.70	95.45	57.58	72.73	81.06	<0.001	
	Continental Croatia	39	52.89	19.46	28.03	88.64	34.85	46.21	74.24		

Source: Authors

Table 2: Testing the statistical significance of differences in respondents 'attitudes for the affective, emotional component of attitude

		Affective component								P
		N	SV	SD	Minimum	Maximum	Percentile 25	Median	Percentile 75	
Object categorization	2 stars	39	33.05	18.06	11.11	69.44	16.67	25.00	52.78	<0.001
	3 stars	111	48.55	21.09	8.33	83.33	27.78	52.78	66.67	
	4 stars	112	63.91	12.32	27.78	86.11	58.33	66.67	72.22	
	5 stars	21	64.42	12.19	30.56	83.33	63.89	66.67	69.44	
Availability and possibility of using the pool, SPA and wellness facilities	No	145	44.35	21.58	8.33	86.11	22.22	50.00	61.11	<0,001
	Yes	138	63.47	12.65	27.78	86.11	58.33	66.67	72.22	
Type of business	Seasonal business	178	52.22	21.06	8.33	86.11	33.33	58.33	69.44	0.167
	Year-round business	105	56.14	18.42	13.89	86.11	41.67	61.11	69.44	
Type of guests	Organized groups	65	60.09	17.01	13.89	86.11	52.78	66.67	72.22	<0.001
	Family guests	126	54.94	21.62	11.11	86.11	38.89	61.11	72.22	
	Individual guests	71	45.38	18.45	13.89	80.56	27.78	50.00	61.11	
	Others	21	54.23	17.73	8.33	83.33	41.67	58.33	66.67	
Environmental quality policy as a standalone document	No	163	46.42	21.54	8.33	83.33	25.00	52.78	66.67	<0.001
	Yes	120	63.52	12.79	30.56	86.11	58.33	66.67	72.22	
Location	Coastal Croatia	244	55.83	19.04	11.11	86.11	47.22	61.11	69.44	<0.001
	Continental Croatia	39	40.17	22.06	8.33	83.33	22.22	30.56	61.11	

Source: Authors

Table 3: Testing the statistical significance of differences in respondents' attitudes for the conative, behavioural component of attitude

		Conative Component								P
		N	SV	SD	Minimum	Maximum	Percentile 25	Median	Percentile 75	
Object categorization	2 stars	39	56.89	16.46	33.33	89.58	43.75	50.00	70.83	<0.001
	3 stars	111	67.02	18.15	33.33	100.00	50.00	70.83	83.33	
	4 stars	112	83.20	11.99	37.50	100.00	77.08	85.42	91.67	
	5 stars	21	87.40	12.08	56.25	100.00	81.25	87.50	100.00	
Availability and possibility of using the pool SPA and wellness facilities	No	145	64.21	17.94	33.33	100.00	50.00	62.50	79.17	<0.001
	Yes	138	83.35	13.01	33.33	100.00	77.08	85.42	91.67	
Type of business	Seasonal business	178	72.20	19.07	33.33	100.00	54.17	77.08	87.50	0.175
	Year-round business	105	75.81	17.04	37.50	100.00	66.67	81.25	87.50	
Type of guests	Organized groups	65	80.71	17.17	39.58	100.00	75.00	85.42	91.67	<0.001
	Family guests	126	73.13	18.68	33.33	100.00	54.17	77.08	89.58	
	Individual guests	71	67.72	17.72	33.33	95.83	54.17	68.75	81.25	
	Others	21	73.51	16.14	37.50	89.58	64.58	75.00	85.42	
Environmental quality policy as a standalone document	No	163	65.04	18.16	33.33	97.92	50.00	66.67	81.25	<0.001
	Yes	120	85.09	10.94	54.17	100.00	79.17	85.42	93.75	
Location	Coastal Croatia	244	75.45	17.79	33.33	100.00	64.58	79.17	89.58	<0.001
	Continental Croatia	39	61.59	17.84	37.50	100.00	45.83	56.25	79.17	

Source: Authors

5.2.1. Differences in attitudes of managers on all three components of attitude with respect to differences in the category of tourist accommodation facility

Post hoc comparisons of p values showed that in the cognitive, cognitive component of attitude, a statistically significant difference was found between attitudes of employee managers in two-star facilities in comparison with attitudes of employee managers in four- or five-star objects. Differences also exist when comparing managers' attitudes toward each combination of comparisons of different object categorizations (p <0.001), except when comparing attitudes of managers employed in 4-star facilities in comparison with those employed in 5-star facilities (p = 0.165), and between those employed in 2-star facilities in comparison with those employed in 3-star facilities (p = 0.062), which is understandable given that the differences between the two categories are relatively smaller than the differences between the other examined categories in the range of more than one star. *Post hoc* comparisons of p values in the affective or emotional component of attitude revealed a statistically significant difference in the attitudes of managers of employees in two-star facilities in comparison with the attitudes of managers of employees in three, four or five-star facilities (p <0.001). There are also differences when comparing manager attitudes with each combination of object categorization levels (p <0.001), except when comparing attitudes of managers employed in 4-star facilities compared with 5-star facilities (p = 0.722), which is understandable given that the differences between the two categories are relatively smaller. Finally, *post hoc* comparisons of p values show that in the conative, behavioural component of attitude, there is a statistically significant difference between the attitudes of managers of employees in two-star tourist accommodations when compared with the views of managers of employees in three, four, or five-star tourist establishments (p <0.001). There are also differences in other comparisons of the attitudes of managers of employees in different categorized objects, except in the comparison of attitudes of managers in 4-star facilities compared with the views of managers of employees in 5-star tourist accommodations (p = 0.108). After scoring the stated degree of acceptance of individual claims according to the seven-point Likert scale using the procedure according to Milošević (2010), it was shown that on all three components of the attitude the most ecologically conscious managers were those employed in 5-star tourist accommodation facilities. It can be concluded that the higher the category of tourist accommodation, the higher the level of development of ecological awareness in the segment of emotional and especially conative, behavioural component.

5.2.2. Differences in attitudes of managers in all three components of attitude with regard to differences in availability of SPA, wellness, and sports facilities in the tourist accommodation facility

In the cognitive, cognitive component of attitude, there was a statistically significant difference in the attitudes of managers of employees in tourist accommodation facilities focused on wellness and SPA availability, as well as the availability of sports and fitness facilities, when compared with the attitudes of managers working in tourist accommodation facilities that do not have such facilities (p <0.001). After scoring, the results show that, with respect to the cognitive component of attitude, more environmentally conscious managers are employed in wellness, SPA, and sports-oriented tourism accommodation, which can be linked to knowledge gained through additional training in wellness and SPA development offers, as well as with regard to the overall orientation of the facilities that build or enrich their offer with wellness and SPA facilities that relate to ecology, healthy lifestyles, and harmony with nature. The affective, emotional component of the attitude also demonstrated a statistically significant difference between the attitudes of managers of employees in tourist accommodation facilities

that are oriented towards wellness and SPA availability compared to those who work in tourist accommodation facilities that do not have such facilities (p <0.001), with more environmentally conscious managers employed in wellness, SPA, and sports-oriented tourist accommodation facilities. Finally, in the conative, behavioural component of the attitude, a statistically significant difference was observed between the attitudes of managers of employees in tourist accommodation facilities oriented towards wellness and SPA availability, as well as the availability of sports and fitness facilities, and the attitudes of managers who work in tourist accommodation facilities that do not have such content on offer (p <0.001). In this component, the managers employed in wellness and sports-oriented tourist accommodation establishments are also more environmentally conscious, which can be linked to the philosophical and ecological underpinnings of the SPA and wellness life philosophy, and relatively low carbon footprint of SPA facilities (Burnett, 2011).

5.2.3. Differences in attitudes of managers on all three components of attitude with respect to differences in seasonality of business of tourist accommodation facilities

In the cognitive component of attitude, a statistically significant difference in attitudes was found between managers working in facilities that are open year-round and those who work seasonally. Managers who work in facilities that operate year-round were shown to be more environmentally conscious when compared to managers who work in facilities that operate seasonally. In the affective, emotional component of attitude, there was no statistically significant difference in attitudes between managers employed in tourist accommodation facilities that are open year-round and those employed in tourist accommodation facilities who work seasonally. However, in the conative, behavioural component of attitude, there was a statistically significant difference between the attitudes of managers of employees in tourist accommodation facilities which are open year-round in comparison with those employed in tourist accommodation facilities which operate seasonally. After scoring, a higher degree of pro-ecological agreement with the survey claims was found among managers who work year-round when compared with managers working in tourist accommodation establishments that operate seasonally. Since they have to do business all year round, they know that climate change can have a negative impact on their business over a longer period of business, and they pay more attention and interest to environmental issues and sustainable development issues in tourism.

5.2.4. Differences in attitudes of managers on all three components of attitude with regard to different orientations of tourist accommodation facilities towards different types of guests

In the cognitive component of attitude, a statistically significant difference in attitudes was demonstrated between managers of employees in facilities with different orientation towards different types of guests. A *post hoc* comparison of p values showed the absence of a significant difference in attitudes between managers in tourist facilities oriented towards organized groups when compared with attitudes of managers employed in facilities oriented towards other guests (p = 0.566). P values recorded when these were compared with managers in facilities oriented toward family guests were p = 0.044, while the comparison with those oriented toward individual guests showed p = 0.006. When comparing the attitudes of managers in facilities aimed at family guests to the attitudes of those directed towards individual guests, p = 0.166 was observed. When compared to the attitudes of managers in the facilities directed towards other guests, p = 0.108 was recorded. The highest level of environmental awareness was observed among managers in facilities oriented towards organized groups, and the lowest

among managers in facilities oriented towards the reception of individual guests. This can be partly explained by the greater involvement of the managers in the facilities, which are mainly based on the acceptance of organized groups, and especially by the group of guests who value the ecological orientation of the facility, the sustainability of development, and other environmental parameters very highly on the priority ladder when choosing a destination for a vacation. In the affective, emotional component of attitude, a statistically significant difference in attitudes was demonstrated between managers of employees in tourist accommodation facilities with different orientation towards different types of guests. Specifically, *post hoc* comparisons of p values between the attitudes of managers of employees in tourist accommodation facilities that are oriented towards individual guests showed significant differences when the attitudes of managers in this group are compared with those of managers employed in facilities oriented towards organized groups (p <0.001), as is the case when comparing the attitudes of managers in family-oriented tourist accommodations (p <0.001). No statistically significant differences were observed when comparing managers working in objects oriented predominantly towards organized groups when compared with those working in objects predominantly oriented towards family guests (p = 0.188) and with other guests (p = 0.103). When comparing manager attitudes in family-oriented facilities to those oriented towards other guests, p = 0.502 was obtained. The highest level of environmental awareness was observed among managers in tourist accommodation facilities oriented towards organized groups, as well as family guests, and the lowest in tourist accommodation facilities oriented towards the reception of individual guests.

Finally, in the conative, behavioural component of attitude, there was a statistically significant difference between the attitudes of managers of employees in tourist accommodation establishments with different orientation towards different types of guests. *Post hoc* comparisons of p values showed statistically significant differences between the attitudes of managers in the facilities oriented towards individual guests when compared with the attitudes of managers of employees in objects oriented towards organized groups (p <0.001), as well as when comparing them with the attitudes of managers in tourist accommodations oriented towards family groups (p = 0.004). The highest level of environmental awareness in this component of the attitude was observed in managers in tourist accommodation establishments oriented towards organized groups, and the lowest in managers of employees in tourist accommodation establishments oriented towards the reception of individual guests. In practice, pro-ecological behaviour is a source of benefits, as guests increasingly seek out and evaluate ecological practices in accommodation establishments when choosing the destination of their visit and planning their trip.

5.2.5. Differences in attitudes of managers in all three components of attitude with regard to the existence of the adopted quality and environmental policy

In the cognitive component of attitude, there are significant differences in attitudes between facility managers who have a clearly accepted quality and environmental policy as a stand-alone document and those managers who run facilities where such a document does not exist (p <0.001). After scoring, the degree of acceptance and evaluation of the claims made in the questionnaire was significantly higher, and more environmental consciousness was noted among those managers working in facilities with approved documents or certificates related to quality and environmental policy. This can partly be explained by the fact that when introducing quality certificates, the preparation and certification procedures, and in particular subsequent monitoring, imply both prior and ongoing education of all stakeholders involved in the business of the certified entity, especially those in managerial positions as decision makers. In the affective component of the attitude, there are also significant differences in attitudes between

managers of employees in tourist accommodation establishments who have a clearly accepted quality and environmental policy as a stand-alone document compared to the views of managers who run tourist accommodation establishments where such a document does not exist (p <0.001). Of course, the level of acceptance of the claims was significantly higher, i.e. more environmentally conscious, by those managers working in tourist accommodation establishments with adopted documents or certificates related to quality and environmental policy. Finally, as expected, it was confirmed that there is a significant difference between the attitudes of managers in tourist accommodation establishments with a clearly accepted quality and environmental policy as a stand-alone document and the attitudes of managers who run such facilities (p <0.001). Of course, the level of acceptance of claims was significantly higher, i.e. more environmentally conscious, among those managers working in tourist accommodation establishments with adopted documents or certificates related to quality and environmental policy, which can be explained by the fact that the philosophy of quality policy covers all stakeholders and all business segments of the certified entity.

5.2.6. Differences in attitudes of managers on all three components of attitude regarding the location of tourist accommodation facilities

There were statistically significant differences in attitudes in the cognitive component of attitude between managers employed in tourist accommodation establishments located in coastal Croatia and managers in accommodation tourist establishments located in continental Croatia (p <0.001). Managers in coastal Croatia provided significantly more pro-ecological responses, suggesting that the cognitive component of environmental awareness was stronger in this group of respondents. Furthermore, statistically significant differences were confirmed for the affective component of attitude between managers employed in tourist accommodation facilities located in coastal Croatia and managers employed in tourist accommodation facilities located in continental Croatia (p <0.001), with managers in coastal Croatia giving significantly more pro-ecological responses. In conclusion, statistically significant differences were observed in the conative, behavioural component of attitude (p <0.001). Managers in coastal Croatia provided significantly more pro-environmental responses. The observed data may be partly explained by the fact that managers in coastal Croatia may be more aware that their business depends on a clean environment, with the dominant orientation of businesses on "the sun and the sea", meaning that their business depends on the sustainable development of tourism in a clean or preserved nature as a resource. On the other hand, managers in facilities located in continental Croatia can base their business on historical and cultural resources and values.

6. Discussion

The results of this research provide new insights into the views of tourism managers and should be viewed in the context of the results of existing studies. Thus, in terms of the size of space use, which is the largest in highly categorized objects, it has been shown that managers in large, highly categorized objects have a more environmentally proactive attitude in the behavioural segment of attitude, which is in agreement with the results obtained in the study by Tiley (1999). A number of other studies have also shown that hotel size and category are a significant factor in the successful implementation of sustainable behaviour in practice (Sánchez-Fernández, 2018; Ocumus, 2019, Dalton, Lockington & Baldock, 2007; Nichols & Kang, 2012; Chan, 2013; Su, Hall & Ozanne, 2013; Ali et al., 2014), with larger, more highly categorized hotels making more effective and long-term investments in green initiatives (Ocumus, 2019, McNamarra & Gibson, 2008; Mackenzie & Peters, 2014).

Furthermore, Kirk (1998) has suggested that, given the strong relationship between the environmental impact of an accommodation facility and its size and occupancy of the space and its category, respondents from high-end hotels (4 to 5 stars) should express stronger environmental awareness (Kirk, 1995; Kirk, 1998). The results of this study have confirmed the results of Kirk's study.

The importance of perceived much stronger pro-ecological activity and awareness in the attitudes of managers in facilities that have a clearly written policy of quality and environmental protection is related to the trends which are today present in tourism worldwide, according to which, in order to formalize and standardize environmentally responsible behaviour, a number of external standards setting benchmarks and guidelines for environmental management are being implement today. The importance of having written quality policies and implementing certification has also been confirmed by Ihlen (2009) and Ocumus et al. (2019)

The most important task of ecologically committed tourist accommodation entities, especially those that have implemented sustainable development settings, is the process of introducing and developing ecological culture. Such a process includes the key role of eco-conscious management which demonstrates and implements a top-down commitment, encourages widespread communication and consultation, emphasizes in practice the importance of developing and implementing an internal environmental awareness program in the business culture of the staff. By working intensively to raise environmental awareness among the staff and the guests, such an approach builds commitment, provides support, rewards, and recognition for the practical steps taken and celebrates any progress and success in promoting sustainable development and socially and environmentally responsible behaviour.

This paper is a contribution in this direction, an incentive to further explore the beliefs and attitudes of all stakeholders involved in the tourism industry. According to the three-pronged structure of attitudes, the implementation of good practice depends on previously adopted attitudes that can be developed, altered, and built with the ultimate goal of preserving and surviving human civilization, which has been brought to the brink of anthropogenically-induced climate change.

There are some limitations to the survey. The most important ones are a relatively poor response of managers to the call for participation in the survey and a possible selection bias, since it can be assumed that more managers who have more pro-environmental attitudes participated in the study because they value environmental issues highly, as well as those hotel managers who have enacted environmental policies and have more regulated logging and documentation systems, which are typically higher-category facilities, since the procedures described are part of the categorization and certification requirements. As a result, this limitation may have resulted in a somewhat biased sample and reporting rate.

7. Conclusion

There are significant differences in the attitudes of managers managing tourist accommodation facilities of different categorizations or with a different number of awarded stars in all the statements for which they expressed their opinion in all three components of the attitude (cognitive, emotional, and conative part).

Also, there are significant differences between the attitudes of managers who manage tourist accommodation facilities that have ecological and SPA/wellness, or fitness facilities and managers in tourist accommodation facilities where there are no SPA/wellness or fitness facilities in all the statements for which they expressed their opinions in all three components of the attitude, except in the emotional component associated with the sense of fear experienced by the respondents when contemplating climate change, irrespective of the observed characteristic of the accommodation.

Furthermore, there is significant difference between the attitudes of managers who manage tourist accommodation facilities that are open year-round and managers in tourist accommodation facilities that are working only during season. Significant difference has been noticed in the most of the statements, and regarding all three components of the attitude.

Clearly, there are significant differences in beliefs and attitudes about climate change and the connection between climate change and tourist accommodation between managers in tourist accommodation facilities oriented towards the accommodation of individual guests and managers in tourist accommodation facilities that are family-oriented or oriented towards organized groups.

Obviously, there are significant differences between the attitudes of managers who manage tourist accommodation facilities which have a clearly defined environmental and quality policy or environmental protection policy contained in any of the valid quality certificates and those who do not have such policies in all the statements they have expressed their attitude about, in all three components of the attitude, except in the emotional component associated with the sense of fear experienced by the respondents when contemplating climate change.

Finally, there are significant differences in attitudes between managers in tourist accommodation facilities located in the coastal counties and those located in continental counties in all three components in all the statements, except in the one according to which the national government should set national targets for increasing the use of renewable energy, such as wind or solar energy. Consequently, the beliefs and attitudes of managers in tourist accommodation are the function of various characteristics of the facilities: stronger pro-ecological attitudes and higher levels of ecological awareness about climate change and the connection between climate change and tourist accommodation are shown by managers working in: tourist accommodation facilities of higher categories; tourist accommodation facilities located in coastal regions; tourist accommodation facilities that work all year round; tourist accommodation facilities that have a strong orientation towards the spa/wellness amenities; tourist accommodation facilities that have a clearly defined quality control policy and environmental protection; as well as tourist accommodation facilities aimed at organized groups and family holidaymakers.

The results of this study provide a series of insights that may be relevant for the development of sustainable practices in the tourism sector and in particular hotel industry in general as they contribute to the understanding of the attitudes of key decision-makers and can provide the basis for predicting their behaviour in relation to the application of environmental protection measures against the negative impact of tourism, which is unambiguous.

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ECOLOGICAL AWARENESS OF MANAGERS IN TOURISM ACCOMMODATION INDUSTRY RELATED TO CLIMATE CHANGE ISSUES

ABSTRACT

Taking into account all other environmental problems, climate change has become the biggest challenge and threat to the survival of the human civilization, with far-reaching consequences and a wide influence on virtually every aspect of human life, and undoubtedly on tourism as an activity. Tourism as a whole, especially transport related to arrivals and departures as well as tourism accommodation per se, significantly contributes to global warming through greenhouse gas emissions and a significant carbon footprint. The aim of the study was to investigate the beliefs and attitudes of Croatian tourism industry executives on climate change and the impact of tourist accommodation on climate change.

The questionnaire was sent to the email addresses of all tourist accommodations in Croatia. In particular, all categorized hotels, hotel resorts, campsites and marinas were contacted.. Out of the total number of questionnaires submitted, 283 questionnaires were fully completed, representing 26.1% of respondents, including 4.60% of the members of the management or supervisory boards, 46.65% of directors or heads of facilities and management, 19% of quality control managers and 33.56% of middle management staff.

After statistical analysis, it can be concluded that managers in tourist accommodation facilities have established beliefs and attitudes about climate change and the connection between climate change and tourist accommodation. When comparing the three components of the ABC Model of Attitudes, it has been shown that among managers the most powerful and positively oriented component was the behavioural component, followed by the cognitive component and the equally positive emotional component. Knowledge of managers' attitudes and beliefs is extremely important in order to anticipate, plan, and direct the use of mitigation measures for the negative impact of climate change so that all subjects directly or indirectly linked to tourism can adapt in a suitable way to the new situation and minimize the negative consequences of climate change as much as possible.

Key words*: ecological awareness, climate change, tourism accommodation, managers.*

1. Introduction

The 2014 International Panel on Climate Change stated that "it is confirmed with near certainty that human activities are the dominant cause of global warming, leading to multiple manifestations of climate change" (IPCC, 2014, 45), although some sceptics remain uncertain about the cause of global warming, arguing that it is "a combination of periodic variations of the Earth's orbit and its axis of rotation as well as other natural processes" (Bonacci, 2013, 587). Sceptics who deny the existence of climate change or their association with human activities emphasize that the contribution of anthropogenic activities to total greenhouse gas emissions is small and represents only 0.1%. However, more and more scientists are warning that "even this 0.1% quantity is crucial" (Lay et al., 2007, 12). Although the anthropogenic contribution of 0.1% is much less than the contribution of volcanoes and biomass decay (1.45%) or the biological activity of oceans (1.45%) and the contribution of water vapor (97%), it is indisputable that the "permanent increase […] caused by anthropogenic activity leads to disturbances in equilibrium" (Lay et al., 2007, 12).

Taking into account all other environmental problems, climate change has become the biggest challenge and threat to the survival of the human civilization, with far reaching consequences and a wide influence on and relationship with virtually every aspect of human life.

A number of authors have shown that there is a strong correlation between tourism activities and climate (Becken, 2004; Becken 2005; Becken 2007; Becken 2010). Tourism as a whole contributes significantly to global warming through greenhouse gas emissions and a significant carbon footprint of tourism. Emissions from tourism, including transport to and from destinations, as well as accommodation and activities, account for at least 5% of global CO_2 emissions (Simpson et al., 2008, 15). Estimates of at least "5% of global tourism-related CO_2 emissions" are also confirmed by other authors (Dweyer, Forsyth & Dwyer, 2010, 721), with estimates ranging up to 8%.

The views of a number of social actors involved (including those in the hotel and tourism industry) are extremely important in implementing the principles of sustainable development and implementing adaptation and mitigation measures to avoid the catastrophic effects of climate change during this century. A number of studies have confirmed that the selection of a sustainable tourism development strategy, and in particular its implementation, is closely linked to the beliefs and attitudes of key decision makers on which the success of the implementation of the selected strategies, in particular the views, beliefs and attitudes of top managers depends (Doran & Zimmermann, 2017; Schliephack & Dickinson, 2017). This is why exploring beliefs and attitudes can be a useful tool for creating an effective climate policy and needs to be emphasized. It can reveal to decision makers how informed they are, the personal relevance of attitudes, connection with personal interests and social identification, and a possible assessment of the impact on people's behaviour and willingness to implement concrete measures, all of which is especially important for managers since they are decision makers and persons who significantly influence the direction of development of a particular segment of economic development, including tourism and hotel management as its most important aspect in Croatia (Ančić, Puđak & Domazet, 2016).

Aim: The aim of the research was to analyse the beliefs and attitudes of managers in the tourism accommodation industry on climate change and the interplay of tourism and climate change. In accordance with the set goal, a hypothesis was formed according to which managers in tourist accommodations have formed beliefs and attitudes about climate change, with all three components of attitude (cognitive, emotional, and behavioural) unequally developed.

2. Methodology

For the purpose of determining the beliefs and attitudes on climate change among the leaders and managers of the Croatian tourist accommodation industry and on the influence of tourist accommodation on climate change, a questionnaire originally designed for this research was used (Racz, 2019). Starting with the perception of attitude as a relatively long-lasting relationship with someone or something manifesting as a tendency to think, feel, and act in a certain way, attitudes and beliefs were explored using the attitude measurement scale presented by a series of claims about objects of attitude. The expressed degree of agreement with the proposed claims and the standardized manner of assessment determined the respondent's position. The first part of the questionnaire used a series of 30 statements related to global warming and climate change, and the relationship between tourism and climate change, according to which respondents had to express their degree of agreement with each statement on a 7-point Likert scale (on a scale of 1-7), with grade 1 meaning *'strongly disagree',* 4 meaning *'neither agree nor disagree'* and 7 meaning *'strongly agree'* with the stated statement. The scle examined the cognitive, behavioural and, to a lesser extent, affective component of attitude. In the second part of the questionnaire, respondents were offered 6 terms related to the parent term *'climate change and global warming'*, in which respondents were asked to indicate on a seven-point scale the position best suited to their feelings about climate change and global warming, which additionally examined the affective component of attitude. The action component of the attitude was examined through a series of 8 statements, each related to individual personal involvement or intent to participate in any of the aforementioned adaptation measures or measures for the reduction of the negative impact on global warming through personal actions, expressed on a seven-point scale.

2.1. Sample and sampling

The survey was aimed at managers in all categorized accommodation facilities in all counties included in the list of categorized facilities on the Ministry of Tourism's web site on 3/7/2019. The survey included categorized hotels and apart-hotels, hotel and apartment complexes, categorized campsites and marinas. In total, managers from 1084 individual categorized accommodation units were invited to participate in the research.
The survey was conducted through online web site and was completely anonymous, with targeted distribution of survey questionnaires or calls through professional associations, competent bodies, and chambers. It was conducted over a period of 45 days between April and June 2019.

2.2. Data processing

IBM SPSS Statistics software version 25.0 was used in the analysis. Data processing was performed using the Microsoft Excel. Kolmogorov-Smirnov's test analysed the distribution of continuous numerical values and corresponding non-parametric tests were applied according to the obtained data. Categorical and nominal values are shown using corresponding frequencies and shares. Continuous values are shown using medians and interquartile ranges, and the differences between them are analysed by Kruskal-Wallis' test, and presented in a box and whisker plot showing median values, interquartile ranges, minimum and maximum values, and extreme values which differ from the medians by more than 1.5 interquartile ranges.

3. Results and discussion

3.1. Sociodemographic data and management profile of respondents

Out of the total number of 1084 questionnaires submitted, 283 questionnaires were fully completed, representing 26.1% of the respondents. Dropout at the research level was at levels expected for this type of research and less than that observed in related research. Park et al. (2014), in a survey among leading managers in the tourism accommodation industry, had a response rate of only 7.4% out of 3,699 questionnaires sent. A response rate of 14.07% was observed in a survey of manager attitudes (Han et al., 2011) that was comparable to the range of 10% to 15% of the response found in previous surveys using online surveys (Han & Kim, 2009; Han. Hsiu & Lee, 2009; Kim & Ok, 2009). The response in this research was significantly better, especially when compared to Park's research. The explanation probably needs to be sought in sociocultural reasons and the way in which participants are motivated to participate in the study.

The study included 283 participants, of which 168 (59.36%) were male and 115 (40.64%) were female. The analysis of the data on the level of the highest level of education among the respondents showed that 77 participants (27.20%) had secondary school education, followed by 66 participants (23.32%) with higher education, 124 participants (43.81%) with a university degree, and 16 (5.67%) with postgraduate education.

Analysis of work experience in tourism showed that 65 (22.97%) respondents have been working in tourism for less than 5 years, 133 (46.99%) have worked in tourism for between 5-15 years, and 85 (30.04%) of those who work in tourism have spent more than 15 years in this industry, which confirms the expected assumption that the managerial position is related to years of work experience in tourism.

Since the survey focused on the views of top managers, persons holding a managerial function (owner or member of a management or supervisory body, director, environmental manager, quality manager, etc.) were asked to fill in the questionnaire. The analysis of the received answers showed that among the respondents who completed the questionnaires there were 13 members of the Management Board or Supervisory body or members of the strategic management or ownership group (4.60%). The largest number of participants, 132 (46.65%), was recorded in the ranks of facility managers or facility managers, or members of operational management, and a relatively significant number of quality managers or management members in charge of quality and/or environmental management, 43 of them (15,19%). The survey also included the participation of as many as 95 (33.56%) middle-level employees who had no significant influence on strategic and developmental decision-making, and who were not the primary target group of this research. However, study has shown that middle-level managers are entrusted with the task of completing a survey, which speaks to the manager's approach to scientific research in tourism. The membership of respondents in an environmental association or self-determination of engaging in environmental activism was analysed, and 39 (13.78%) active members were observed among respondents, compared to 244 (86.22%) of those who did not express membership or activist engagement in any of the NGO associations or movements, which shows there are very few managers who are either personally engaged in an environmental NGO or accept environmental activism as their commitment, despite the strong link between tourism and industry and ecology.

3.2. Managers' beliefs and attitudes on climate change and the level of environmental awareness expressed

3.2.1. The cognitive component of attitude

The degree of agreement of the respondents with statements regarding the cognitive component of attitude has been presented in Table 1.

Table 1: The degree of agreement of the respondents with statements regarding the cognitive component of attitude

	N	SV	SD	Minimum	Maximum	Percentiles		
						25.	50. (Median)	75.
Climate change is a serious problem in the world	283	5.70	1.40	2.00	7.00	5.00	6.00	7.00
Combating climate change and more efficient use of energy can strengthen the economy and tourism and increase employment	283	5.60	1.41	1.00	7.00	5.00	6.00	7.00
The impact of tourist accommodation on environmental pollution is not negligible compared to the benefits that tourism brings to the local community	283	3.60	1.88	1.00	7.00	2.00	4.00	5.00
Climate change in the near future will have a significant impact on the design and development of tourism in Croatia	283	5.58	1.49	1.00	7.00	5.00	6.00	7.00
Global warming is caused predominantly by human activities	283	5.34	1.52	1.00	7.00	4.00	6.00	6.00
Global warming is not predominantly caused by activities related to natural causes and variations in climate and is human-dependent	283	4.50	1.83	1.00	7.00	3.00	5.00	6.00
The overall impact of tourism on global warming and climate change is much greater than the impact of other services	283	3.22	1.75	1.00	7.00	2.00	3.00	5.00
Climate change and global warming will threaten future generations	283	5.55	1.55	1.00	7.00	5.00	6.00	7.00
Climate warming is actually happening	283	5.06	1.82	1.00	7.00	3.00	6.00	6.00
The tourism industry is a big energy consumer, a significant user of space and other resources	283	4.37	1.56	1.00	7.00	3.00	5.00	5.00
Tourism depends on the conservation of the environment as a resource, but, paradoxically, it	283	4.80	1.69	1.00	7.00	4.00	5.00	6.00

	N	SV	SD	Minimum	Maximum	Percentiles		
						25.	50. (Median)	75.
has a negative impact on the environment.								
Protecting the environment in terms of reducing global warming is crucial to the sustainable development of tourism	283	5.53	1.52	1.00	7.00	5.00	6.00	7.00
It is important for the government to set national targets on the national level in order to increase the use of renewable energy, such as wind or solar energy	283	6.17	0.99	1.00	7.00	6.00	6.00	7.00
The application of sustainable development principles in business practice is an important source of competitive advantage	283	6.02	0.98	1.00	7.00	5.00	6.00	7.00
Scientists have a clear answer to the question of what causes global warming	283	4.13	1.65	1.00	7.00	2.00	5.00	6.00
It is important that the government continuously provide material support to energy efficiency improvement programs on the national level	283	6.20	0.92	1.00	7.00	6.00	6.00	7.00
Climate change is already significantly defining and changing the development of tourism in the world today	283	5.60	1.24	1.00	7.00	5.00	6.00	7.00
Climate change could endanger me personally or my family	283	5.51	1.46	1.00	7.00	5.00	6.00	7.00
Climate change cause uncertainties regarding success in the tourism business	283	5.18	1.35	1.00	7.00	4.00	5.00	6.00
An individual is not powerless and helpless in the fight against climate change	283	3.47	1.83	1.00	7.00	2.00	4.00	5.00
Environmental pollution is not an inevitable consequence of development	283	3.22	1.83	1.00	7.00	1.00	3.00	5.00
Environmental changes such as rising average temperatures or rising sea levels are not slow and one should therefore be concerned	283	4.44	1.78	1.00	7.00	3.00	5.00	6.00

Source: Authors

When comparing the degree of agreement with all the claims offered in this group, it can be observed that the following statements have a degree of agreement with an average value of over 6.00: "It is important that the government continuously provide material support to energy

efficiency improvement programs on the national level" (6.20); "It is important for the government to set national targets on the national level to increase the use of renewable energy, such as wind or solar energy" (6:17); "The application of the principle of sustainable development in business practice is an important source of competitive advantage" (6.02).

In contrast, the claims with the lowest average degree of agreement below 3.5 are the following: "The overall impact of tourism on global warming and climate change is significantly greater than the impact of other services" (3,22); "Environmental pollution is not an inevitable consequence of development" (3,22); "An individual is not powerless and helpless in the fight against climate change" (3,47).

From the above it can be observed that, on the one hand, the respondents show the highest degree of agreement with regard to the statement that the application of the principle of sustainable development in business is an important source of competitive advantage, but significant contribution to the realization of such perceived competitive advantage is sought in the government, which is expected to adopt strategies and set national targets for increasing the use of renewable energy, as well as provide concrete material support and support through co-financing energy efficiency improvement programs. It is also interesting that all three of the claims which received the highest degree of agreement are those not directly related to climate change but to the competitiveness and use of cohesion funds.

In contrast, the claims which received the lowest degree of agreement were those that examined the awareness of the impact of tourism on global warming and the magnitude of the negative impact compared to other services, which proved to be the claim which received the lowest degree of agreement. Also, most respondents see environmental pollution as "an inevitable consequence of development" and "an individual as helpless and powerless in the fight against climate change", which undoubtedly has repercussions and is an active component of the attitude. This can have consequences, in general, on the relation to environmentally friendly actions and measures which rely on individuals to positively affect the reduction of anthropogenic influence on the increase of global warming and on the emergence of climate change.

3.2.2. The affective component of attitude

The affective or emotional component of an attitude contains an emotional attitude towards the object of the attitude, the experience of being comfortable and attractive or unpleasant and repulsive. Emotional saturation gives the attitude special strength and stability. A positive attitude is manifested in the desire to support, assist, and protect the object of the attitude, and a negative attitude in that the object is avoided, disabled, or attacked. The emotional component of the attitude was examined through 6 terms related to the parent term "climate change and global warming", in which subjects had to indicate the attitude that best fits their feelings about climate change and global warming on a 1-7 scale. In this part of the questionnaire, the following results were obtained as shown in Table 2.

Table 2: The degree of agreement of the respondents with the statements regarding the affective, emotional component of the attitude

	N	SV	SD	Minimum	Maximum	Percentiles		
						25.	50.(Median)	75
When I think of climate change, I feel: fear	283	4.86	1.58	1.00	7.00	4.00	5.00	6.00
When I think of climate change, I feel: anger	283	4.61	1.97	1.00	7.00	3.00	5.00	6.00
When I think of climate change I don't feel: helplessness	283	3.41	1.54	1.00	7.00	2.00	3.00	5.00
When I think about climate change, I don't feel: indifference	283	5.20	2.03	1.00	7.00	4.00	6.00	7.00
When I think about climate change, I feel: anxiety	283	5.19	1.95	1.00	7.00	3.00	6.00	7.00
When I think about climate change, I feel: personal guilt	283	2.05	1.10	1.00	6.00	1.00	2.00	3.00

Source: Authors

When analysing the emotions expressed by the respondents in relation to the notion of climate change, one can see that feelings of anxiety dominate. Furthermore, there is no sense of personal guilt, which confirms a totally uncritical attitude towards personal, general anthropogenic, and professional contribution to climate change. Participants also pointed out "anger" as a possible strong emotion that can trigger reaction and effective action, but it was relatively poorly represented among the subjects.

3.2.3. The behavioural component of attitude

The conative, behavioural component of an attitude refers to the intention of a person to behave in a certain way towards someone or something. Behaviour-based attitude emerged from observations of one's own behaviour toward the object of the attitude. The action component of the attitude was examined through a series of 8 claims, each related to individual personal involvement or intent to participate in any of the aforementioned adaptation measures or measures to reduce the negative impact on global warming through personal actions.

Table 3: The degree of the respondents' agreement with the statements regarding the conative, behavioural component of attitude

	N	SV	SD	Minimum	Maximum	Percentiles		
						25.	50. (Median)	75.
For the past six months, I have strived to personally support and participate in climate change action	283	5.60	1.25	1.00	7.00	5.00	6.00	7.00
When purchasing a new vehicle, low fuel consumption and environmental parameters are more	283	5.16	1.49	1.00	7.00	4.00	6.00	6.00

	N	SV	SD	Minimum	Maximum	Percentiles		
						25.	50. (Median)	75.
important to me than the price of the vehicle when making a choice								
When building a new building or remodelling an existing one, it is important for me to be guided by the concept of low energy consumption, regardless of the fact that initial investments are higher than in the case of conventional construction	283	4.65	1.55	2.00	7.00	3.00	4.00	6.00
When choosing an energy supplier, if I had the choice, I would choose one that offers a higher share of renewable energy, regardless of the higher price	283	4.95	1.60	1.00	7.00	4.00	5.00	6.00
I try to reduce the amount of packaging waste by purchasing products with minimal or recyclable packaging	283	5.53	1.46	1.00	7.00	4.00	6.00	7.00
I try to buy local food products from local producers, although I can also find cheaper products in the market from distant producers or imports	283	5.71	1.37	1.00	7.00	5.00	6.00	7.00
When buying a new electronic or household appliance, such as home appliances or electronic appliances, I choose them primarily according to the energy efficiency criteria and the most favourable energy class selection	283	5.51	1.41	2.00	7.00	4.00	6.00	7.00
Every day I strive to reduce water and energy consumption	283	6.18	1.05	3.00	7.00	6.00	6.00	7.00

Source: Authors

In the group of 8 statements regarding the behavioural component of attitude, the respondents expressed the highest degree of agreement with the claim that they "strive to reduce water and energy consumption on a daily basis". This is probably driven by the directly tangible and measurable benefit, but also by the fact that during the main tourist season a part of the tourist accommodation facilities in a number of coastal and island destinations face problems with water supply, and the respondents were directly and directly exposed to this problem. Such problems are most frequently perceived, in contrast to problems that have a delayed effect on time or are of global consequence. A similar explanation can be applied to the high level of agreement of the claim that "respondents are struggling to buy local food products from local producers, although they may also find cheaper products from distant producers or imports on the market". It is important that more and more tourist establishments try to act proactively

towards the local community, and increasing numbers of guests look for local products at their accommodation facility.

The only two claims with an average agreement rating below 5.00 were claims related to the need to invest more material assets for deferred benefits in the future, such as when constructing new low-energy consumption facilities, regardless of the fact that initial investments are higher than in classic construction, as well as choosing distributers that offer a greater share of renewable energy, regardless of the higher cost. The relatively low agreement of this claim can probably be explained by both the abstract formulated environmental action and the delayed benefit.

It is probably important that in Croatia, the possibility of choosing between different energy distributors is only in its infancy, and the main argument for promoting the possibility of selection in marketing campaigns is exclusively price, without any information on the possible share of energy from renewable sources.

3.2.4. Analysis of the share and contribution of each component of the attitude to the overall expressed level of environmental awareness

In order to analyse the share and contribution of each component of the attitude to the overall expressed level of environmental awareness, some total factor scores (given the different number of questions involved) were converted to a scale from 0 (least agreement / no agreement with each factor) to 100 (complete agreement with a factor) according to the formula in which "the numerator is formed by the difference of the scores of the ladder of each factor, reduced by the smallest possible amount of the ladder of the factor, the denominator represents the possible range of the ladder of factors, and the result is multiplied by one hundred". (Milosevic, 2011, 39). Considering that all claims for the purpose of processing were equally focused, with the right orientation (higher score) representing pro-environmentally friendly behaviour or understanding of the pattern, the consequences and correlation of phenomena with global warming and climate change, it can be conditionally said that respondents with a greater achieved score showed a higher level of development of ecological awareness by individual segments, domains, or as a whole, or by the number of people that allow comparison between individual groups of respondents.

Table 4: Comparison of total scores after converting factor scales on each of the three components of attitude

	N	SV	SD	Minimum	Maximum	Percentile		
						25th	50th (Median)	75th
Cognitive component	283	65.75	18.06	19.70	95.45	52.27	71.21	81.06
Conative component	283	73.54	18.40	33.33	100.00	58.33	79.17	87.50
Emotional component	283	53.67	20.18	8.33	86.11	38.89	58.33	69.44

Source: Authors

Table 5: Results obtained using the Kolmogorov Smirnov test

Kolmogorov-Smirnov test

		Cognitive component	Conative component	Emotional component
N		283	283	283
Normal paramet.[a,b]	SV	65.7485	73.5424	53.6710
	SD	18.06386	18.39761	20.18036
Extreme values	Absolut.	0.133	0.139	0.150
	Positiv.	0.071	0.080	0.090
	Negativ.	-0.133	-0.139	-0.150
Test stat.		0.133	0.139	0.150
P		<0.001[c]	<0.001[c]	<0.001[c]

a. Test distribution is normal. b. Calculated from data. c. Lilliefors significance correction.

Source: Authors

The obtained results are shown in graph 1 below, in the box and whisker plot, which shows values of medians, interquartile ranges, minimum and maximum values, and extreme values that differ from the median by more than 1.5 interquartile ranges.

Graph 1: Results in a box and whisker plot that displays values of medians, interquartile ranges, minimum and maximum values, and extreme values that differ from the median by more than 1.5 interquartile ranges for each domain analysed
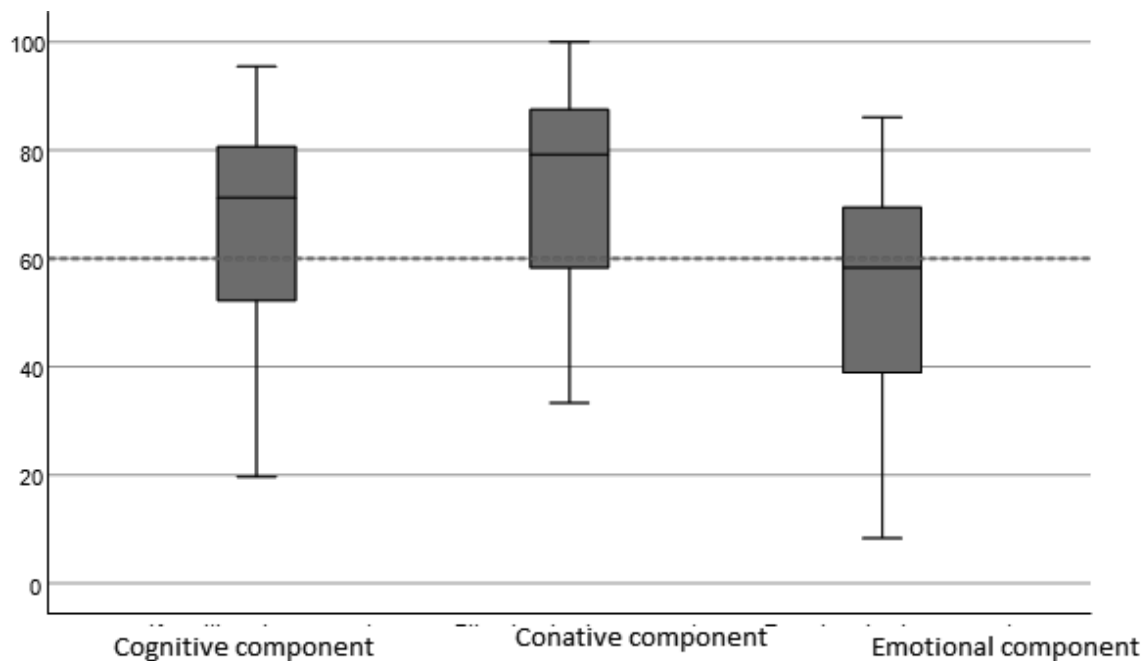
Source: Authors

Graph 1 shows that, overall, the highest degree of agreement with the statements is expressed in the conative component, slightly lower in the cognitive component, while the lowest degree of agreement with the offered statements is expressed in the affective component. After conversion, the average score of 65.75 was recorded on the cognitive component. The highest score on the conative component was 73.54, and the lowest on the emotional component was 53.67.

The cut-off value of individual scoring (indicating good or bad characteristics) was taken to be 60 according to the conclusions of previously published papers (Harwell & Gatti, 2001; Allen & Seaman, 2007). The overall score on the entire scale was over 60/100, which is overall an encouraging result on the level of all respondents.

The explanation of the observed fact that there is a gap between the behavioural and the cognitive components, and especially the behavioural and emotional components of attitude, can be explained by the approach by which Trawöger (2014) explains that knowledge about climate change as a global phenomenon does not trigger (and does not automatically determine) action, but action can be triggered by other mechanisms and incentives such as accepted protocols or accepted environmental quality policies, either at the level of an individual facility or the whole chain to which individual facilities may belong, which determine pro-active environmental treatment beyond the individual views of each stakeholder (Trawöger, 2014: 348). The most proactive component found can be partly explained by Trawoger's thesis, which also points to the existence of a general attitude of tourism stakeholders who "feel obliged to believe in the future of hotel tourism and show optimism in a competitive environment" (Trawöger, 2011: 332).

3.2.5. Research limitations

Although the relatively satisfactory response to the survey participation obtained in this survey is actually expected and typical of email surveys (Medina-Munoz & Garcia-Falcon, 2000; Jeong & Oh, 2003), the lack of response from managers from over 70% of accommodation facilities leaves room for caution when generalizing the obtained results. A limited response rate is also thought to have been caused in this research by the use of e-mail for correspondence that is likely to be perceived as less binding. It can be assumed that the relatively lower turnout was further conditioned by the complexity of the topic and the complexity of issues that, particularly in the cognitive component, require a certain understanding of the phenomenon of climate change and the interaction of tourism and changes in nature. Some respondents in managerial positions, especially those employed in corporate chain facilities, are not authorized to access research on their own and had to obtain permission from the central government, which may have discouraged some potential respondents or even halted the research because of the complexity of procedures in part of the facilities. Finally the sample bias should be considered because it could be the case that more managers interested in the matter responded and those that are most unaware about climate change issues feel unmotivated to participate because they consider the issue to be unimportant. Therefore there is a possibility that results are somewhat positively directed.

3.2.6. Managerial implications and further research

Knowledge of managers' beliefs and attitudes in the tourism industry is very important to create and implement measures to reduce the environmental footprint of the hotel industry and to guide the development of the hotel industry towards sustainable development.

Knowledge of manager behavior helps policy makers make partners who will implement development strategies.

Further research should be directed towards expanding the number of managers involved in research and targeted research tailored to the specificities of particular tourism segments, primarily campsites and marinas, where there is much room for environmental awareness of all stakeholders involved.

4. Conclusion

It can be concluded that managers in tourist accommodation facilities have established beliefs and attitudes about climate change and the connection between climate change and tourist accommodation. When comparing the three components of the ABC Model of Attitudes, it has been shown that among managers the most powerful and positively oriented component was the behavioural one, followed by the cognitive and the equally positive emotional component. Knowledge of managers' attitudes and beliefs is extremely important in order to anticipate, plan, and direct the use of mitigation measures on the negative impact of climate change so that all subjects directly or indirectly linked to tourism can adapt in a suitable way to the new situation and minimize as far as possible the negative consequences of climate change.

This paper is a contribution in this direction, an incentive to further explore the beliefs and attitudes of all stakeholders involved in the tourism industry. According to the three-pronged structure of attitudes, the implementation of good practice depends on previously adopted attitudes that can be developed, modified, and built with the ultimate goal of preserving the human civilization, which has been brought to the brink of anthropogenically induced climate change, especially considering potential scenarios of global temperature increase of 2 degrees and more by the end of this century.

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SUSTAINABILITY OF THE TRADE BALANCE OF GOODS IN THE REPUBLIC OF CROATIA

ABSTRACT

Deficits of the trade balance of goods in post-transition countries usually indicate deep structural problems of one economy. Historically, Croatia mainly recorded deficits on the trade balance of goods, with certain years as exceptions. It is clear that Croatia has a lack of competitiveness due to unfavorable production structure that can be seen through long-term deficits on the trade balance. Therefore, the aim of this paper is to investigate the sustainability of the trade balance of goods in the Republic of Croatia. When examining the sustainability of a trade balance of goods, it is important to analyze the variables that contribute to the generation of long-term trade deficits. Among those variables, many studies highlighted the structure of trade balance, savings, investments, demographic trends, exchange rate, capital inflows and financial system development. In this paper is employed the econometric approach to assessing the sustainability of the trade balance of goods, based on the cointegration analysis. The obtained results indicate the long-term unsustainability of the trade balance of goods in the Republic of Croatia. Such findings only confirm the lack of goods export competitiveness in the Croatian economy.

Key words: *current account balance, cointegration analysis, lack of competitiveness in goods.*

1. Introduction

The European Union is undoubtedly undergoing a period of transformation. This is mostly reflected in pervasive trends such as globalization, demographic change, in particular the aging population and greater needs for formal long-term care, issues of intergenerational solidarity, migration (in terms of challenges and opportunities), climate change, depletion of natural resources and rapid technological progress. Furthermore, there are many challenges in digitizing and restructuring the economy, as well as in education systems, which will result in significant changes in the labor market and displacement, especially for low-skilled workers. The challenge, therefore, is to create jobs beyond existing models of working conditions and social protection.

All these phenomena are shaping the new European reality that the Member States need to adapt to. This has brought new long-term challenges to the European Union, further compounded by the structural weaknesses of European economies. Namely, the last world economic crisis showed that the euro area is still not the optimal currency area and that the EU member states reacted differently to the crisis and adjusted to the natural level of income with different

dynamics. For example, according to a MacroHub survey (2019), Slovakia reached the pre-crisis levels of gross domestic product (2008:Q2) in the third quarter of 2010, Poland did not even have a recession, Bulgaria needed 3 years to recover, Romania 6 years, while Croatia reached the pre-crisis level of GDP last among the post-transition countries of the EU, i.e. after 10 years and 3 quarters. Furthermore, while Croatia has been recovering for almost 11 years, Poland has achieved 44% higher GDP than in 2008, Slovakia 29% higher and Romania 26% higher GDP. Therefore, in the face of growing inequalities and the need to preserve the euro as a common currency, European Union economies are challenged, especially countries such as Croatia.

Until 2013, Croatia recorded continuous deficits in the current account of the balance of payments. Although the recovery of foreign trade partners had a favorable effect on the current account balance of the Republic of Croatia through an increase in exports, as the slow recovery of the Croatian economy (the decline in standards affects the fall in imports) had an positive effect on balancing the trade balance, with the existence of an unfavorable production structure[2] of the Republic of Croatia it is not to be expected that current account position will remain balanced. In other words, current account position is likely to be unsustainable in the Republic of Croatia. The weak current account position of the Republic of Croatia is a consequence of more significant growth of imports than exports, which indicates structural problems and a lack of competitiveness of the Croatian economy. It is therefore important to examine the long-term sustainability of the current account in Croatian.

In addition, the last global economic crisis revealed the existence of "two Europe", thus dividing the Member States into "losing" countries and "winning" countries (Gasparotti and Kullas, 2019; Russ, 2019). Further integration of EU Member States, which are characterized by significant imbalances in the external accounts, can be achieved precisely through increased competitiveness, especially in the context of limited fiscal and monetary policy options. This is the other important reason why investigation the current account sustainability is crucial for small open country that is part of economic integration such as EU is.

Figure 1 presents the current account as percentage of GDP in the Croatia. On the left axis is given the total current account, while the right axis shows the movements only in trade balance. Throughout the observed period (2000-2018), Croatia recorded deficits in the goods account. The question is what caused the unfavorable external imbalance in Croatia. A significant inflow of foreign capital caused appreciation pressures. Furthermore, most foreign investments in Croatia were related to mergers and acquisitions (change of ownership), not to the creation of new ones. This inflow of capital was mainly focused on the non-tradable sector and went mainly to consumption and less to investment. This led to an increase in income, but not in production. Altogether, it reflected negatively on the current account of the balance of payments, which recorded growing deficits. So, there was an increase in imports and a drop in exports. With the growth of income, domestic economic entities spend more, primarily on imports in the case of the Republic of Croatia. The current account has been recovering since 2013, primarily due to a fall in income due to the global financial crisis, but also a faster recovery of foreign trade partners, which is why the overall current account also records surpluses. However, the balance

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[2] The production structure of an economy captures the enduring aspects of the economic system and as such has macroeconomic and microeconomic characteristics. Some of the macroeconomic characteristics are the size of the economy, the degree of openness of the economy, geographical location and the like. On the other hand, microeconomic characteristics include the state of the art, innovative content and complexity of products, barriers to entry and exit from industry, physical and human capital, and the like (Acocella, 2005).

of the goods account is still unfavorable. This points out to the structural problems of the Croatian economy, as well as the lack of competitiveness of Croatian goods.

Figure 1: Current account (% GDP)
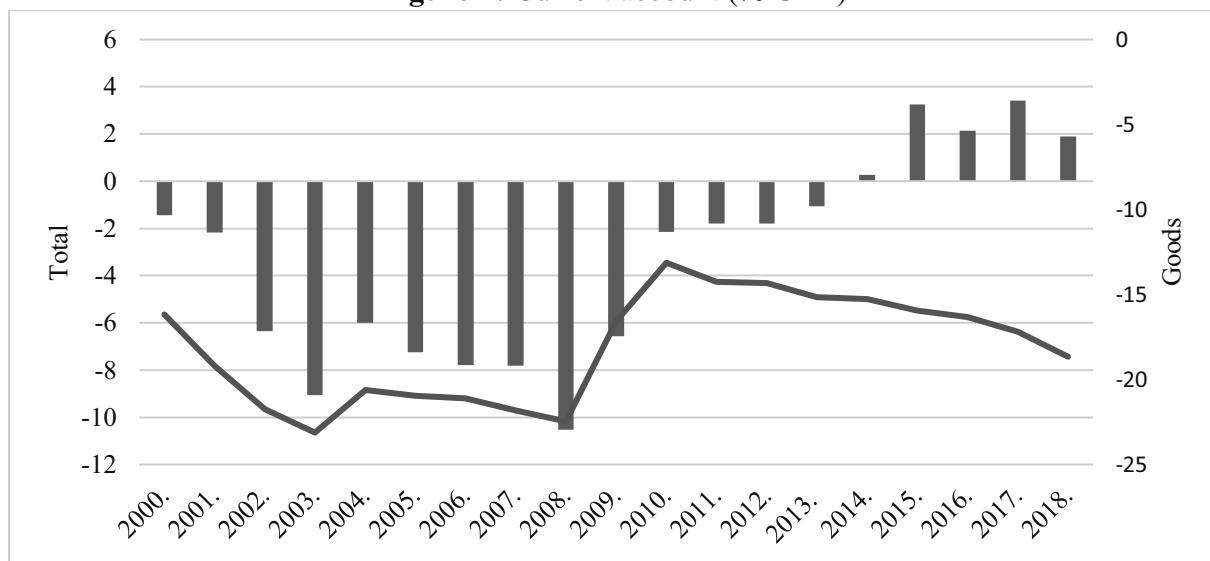
Source: Croatian National Bank (2019)

Since the trade balance of goods is the one to be considered of in Croatian economy, in this paper is set the hypothesis: *The trade balance of goods in the Republic of Croatia is not sustainable.*

This paper is organized in four sections. Section 2 presents the literature review on current account sustainability. Empirical model is presented in section 3, together with the obtained results. Finally, section 4 concludes the findings of this research.

2. Literature review

When discussing the current account sustainability, first criteria was the quantitative one introduced by IMF (1993). According to this criterion, the current account deficit is sustainable as long as it does not exceed the level of 5% of gross domestic product. Still, such criterion is not sufficient one for the estimation of current account sustainability, as practice showed that this number is country specific. In other words, for some countries 5% is sustainable due to other favorable determinants of current account, while in others exceeding the number of 5% leads to currency crises. This is why the size of the deficit should be expended with the analyses of the determinants of the current account balance. Analyzing the determinants of current account balance is the second approach to assessing the sustainability of a current account balance.

Two long term determinants of current account balance are the relationship between savings and investments. It is known from macroeconomic theory (Blanchard, 2016) that only the situation where total investments are equal to total savings in one economy can secure current account equilibrium (so called external balance). When discussing the current account sustainability, first determinant to be examined is the source of current account deficits. If the fall in savings is the source of current account deficits, external position is considered less sustainable than it the source was to be found in the increase of investments (Calderon, Chong and Loayza, 2000; Aristovnik, 2002; Bussiere, Fratzscher i Muller, 2004; Hermann i Jochem, 2005).

Among main current account determinants is also the structure of the current account. The current account deficit is less sustainable if it arises from a high deficit in the goods account than if it results from a net income account (Roubini and Watchel, 1997). As it was highlighted earlier in this paper, Croatia generates deficits in goods account, which makes it less sustainable. Next current account determinant is the structure and size of capital inflows. Current account deficit is more sustainable if it is financed with long-term capital inflows (such as foreign direct investments) rather than if it is financed with short-term capital inflows (so called hot money). Long-term investments increase the productivity and competitiveness, which should improve the current account position. Benefits from foreign direct investments are analyzed in Globan (2012, 2018). Aristovnik (2006) showed that the sudden stop of capital inflows in selected post-transition countries would have the negative impact on the sustainability of the current account deficit. Rogić (2011) confirms the positive long-term relationship between foreign direct investments and current account balance in Croatia in period 2000-2010. Some research report that the impact of net foreign investments can be both, positive and negative, depending on whether they boost investments or savings (Bosworth and Collins, 1999).

In the literature, it is frequently highlighted the real exchange rate as one of the crucial current account determinants. Real exchange rate depreciation can result in competitiveness gains and lead to more sustainable current account position (Roubini and Watchel, 1997; Debelle and Faruquee, 1998). Real exchange rate in fact catches the price competitiveness factors. More recent researches are increasingly emphasizing non-price competitiveness factors as major determinants of exports, and consequently sustainability of the current account (Rogić Dumančić and Mačkić, 2017). Also, when discussing the effects of real exchange rate, there is evidence that in Croatia they tend to stimulate the exports in low-technology manufacturing (Bogdan, Cota and Rogić, 2015).

The relationship between budget deficit and current account deficit is known as "*twin deficit hypothesis*" which states that budget deficit generates the current account deficit. Some research confirm this relationship (Zanghieri, 2004; Hermann and Jochem, 2005; Rogić, 2011), while some imply that due to strong correlation between investments and saving, this relationship does not need to be valid (Feldstein and Horioka, 1980, Coakley, Kulasi and Smith, 1998).

Besides before mentioned ones, there is a wide list of determinants that can affect the current account position. The financial system sophistication has a role in current account sustainability. The final effect on the current account depends on whether the greater sophistication of the financial system encourages more savings or investment (Edwards, 2005). The positive effect was confirmed in Chin and Prasad (2000). The greater confidence in the financial system can stimulate the willingness of foreign investors to finance the current account deficit[3].

In prevailing trend of ageing population in Europe, more and more concern is given to demographic structure of population[4]. To understand this relationship, one must look at the coefficient of total age dependence. It represents the ratio of the inactive population (under 15 years, over 65 years) to the working population. The younger and older part of the population typically saves less. Therefore, a higher coefficient on total age dependency reduces savings and thus worsens the current account balance of payments. If inactive population growth reflects a decline in consumption, the effect on the current account can be positive. Still, a negative relationship was confirmed in research by Hermann and Jochem (2005) and Zanghieri

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[3] More about financial development and its impact on economy can be found in Delić and Rogić Dumančić (2016) and Rogić and Bogdan (2012).

[4] See more in Strmota and Ivanda (2015) and Akrap, Strmota and Ivanda (2018).

(2004). Also, ageing population is a burden to the sustainability of the pension systems in European Union. The pension systems are influenced by changes in demographic trends, which than also affects the current account balance. Countries with higher old-age dependency ratio, life expectancy at age 65 and replacement will have higher pension expenditure (Hodžić, Rogić Dumančić and Bečić, 2019).

Among other determinants of current account sustainability, in literature are highlighted the burden of foreign borrowing, GDP growth, degree of economic development and degree of trade openness. Higher burden of foreign borrowing leads to lower possibility to borrow in the next period. Such country needs to repay accumulated debt which leads to current account deficit. For Central and Eastern European countries there is a positive relationship between foreign borrowing and current account deficits (Aristovnik, 2002). GDP growth has a negative impact on current account balance due to positive effect that is has on total investments (Hermann and Jochem, 2005; Bussiere, Fratzscher and Muller, 2004). Developed countries need less foreign investments that developing countries do, so by increasing the degree of economic development, countries should generate current account surpluses. In other words, the more country is developed, total saving should rise (Chin and Prasad, 2000). A higher degree of trade openness increases export earnings and has positive effect on current account balance (Calderon, Chong and Loayza, 2000).

As this literature review shows, numbers of research have analyzed the relationship between the current account balance and its main determinants. The third way of analyzing the current account sustainability is by estimating the cointegration between total revenues and total expenditures of the current account. If there is a long-term relationship between these two time series, current account can be considered as sustainable. In other words, the difference between revenues and expenditures decreases in time and weighs into a common long-term trend. Equally, if the two time series deviate in time, this means that the current account deficit can be considered unsustainable. In this paper is employed the econometric approach to assessing the sustainability of the trade balance of goods, based on the cointegration analysis. The cointegration analysis to the same purpose was employed by Čudina (2009) and Rogić (2011) for the Republic of Croatia. The results imply that current account is not sustainable in Croatia.

3. Empirical model and results

This paper investigates the hypothesis "*The trade balance of goods in the Republic of Croatia is not sustainable*". The data used in the analysis are seasonally adjusted quarterly current account balance in goods for Croatia (revenues (PCAB) and expenditures (RCAB)) as a percentage of GDP. Data source is Croatian National Bank. The analysis covers the period from Q1:2000 to Q3:2019. This assures time series of almost 19 years, i.e. 79 observations.

In this paper is applied an approach to assessing the sustainability of the current account in goods, which is to test the cointegration between total revenues and total current account in goods expenditures. In order to test the cointegration, Johansen's (1988) test is used. In steps, this procedure includes determining the optimum number of lags within the VAR model framework, estimating the VAR model with the optimum lag number, determining the number of cointegration vectors, estimating the VEC model and error correction term (ECT). If results confirm the cointegration, it means that there is a long-term relationship between revenues and expenditures. The sign of error correction term (ECT) will also provide the information about the current account sustainability. Sustainability implies that the system returns to long-term equilibrium. The negative coefficient of adjustment (ECT) is important for this. In the case of unsustainability, it is positive. When a long-term relationship is present, it is clear that a

particular relationship exists in the long run. When there is no long-term relationship, no variable has an effect in the long run.

In this paper is applied ADF (Dickey and Fuller, 1979) test in order to test the stationarity of the variables used in analysis. Both variables used in the model are stationary in first level, or they are integrated in order one - I(1) process. The analysis begins with determining the optimal lag length. According to *Lag Order Selection Criteria* (Table 1), in this analysis VAR model is estimated with 6 lags[5].

Table 1: VAR Lag Order Selection Criteria

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-347.5976	NA	86.27286	10.13327	10.19802	10.15896
1	-145.0684	387.4472	0.273392	4.378795	4.573065	4.455869
2	-139.1797	10.92395	0.258931	4.324051	4.647834	4.452506
3	-135.4958	6.620416	0.261547	4.333212	4.786509	4.513050
4	-128.6859	11.84326	0.241473	4.251766	4.834576	4.482986
5	-97.86671	51.81202	0.111262	3.474397	4.186721	3.757000
6	-81.84380	**26.00820***	**0.078808***	**3.125907***	**3.967744***	**3.459892***
7	-79.54784	3.593678	0.083213	3.175300	4.146650	3.560667
8	-78.50631	1.569841	0.091264	3.261052	4.361916	3.697802
9	-73.80602	6.812013	0.090191	3.240754	4.471132	3.728886
10	-72.70031	1.538371	0.099134	3.324647	4.684538	3.864161

NOTE: * indicates lag order selected by the criterion
LR: sequential modified LR test statistic (each test at 5% level)
FPE: Final prediction error
AIC: Akaike information criterion
SC: Schwarz information criterion
HQ: Hannan-Quinn information criterion
Source: Author's calculation

After the estimation of VAR framework with 6 lags, it is necessary to test the cointegration based on two unrestricted cointegration rank test: trace (λ_{trace}) and maximum eigenvalue (λ_{max}). Results suggest the existence of one cointegration vector. The results of estimated VECM model are available in Table 2.

Table 2: Cointegration equation

PCAB(-1)	1.000000
RCAB(-1)	-4.367774
	(2.08376)
	[-2.09611]
C	168.6057
	(76.7372)
	[2.19718]

Source: Author's calculation

First part of results present the long term cointegration equation which can be written as:

$$PCAB= -168.60+4.36*RCAB \qquad (1)$$

From the aspect of sustainability of the trade balance of goods, these results suggest the unsustainability in the long run in the case of Croatia. The increase in the trade balance of goods

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[5] VECM model must include one lag less than estimated VAR model.

deficit (% of GDP) by one percentage point is associated with an increase in revenue (% of GDP- a) by 4.36 percentage points. If expenditures increase in the long run more than revenues, this causes an increase in the deficit and contributes to unsustainability of trade balance in goods. To achieve the sustainable in the long run, the estimated coefficient must be exactly one, as this implies a long-term change in both variables in the same amount, resulting in an unchanged current account balance (steady state).

Furthermore, the error correction term (ECT) can be estimated by following equation:

$$\Delta PCAB_t = c + \alpha ECT_{t-1} + \gamma_1 \Delta PCAB_{t-1} + \gamma_1 \Delta PCAB_{t-1} + \gamma_2 \Delta PCAB_{t-2} + \gamma_3 \Delta PCAB_{t-3} + \gamma_4 \Delta PCAB_{t-4} + \gamma_5 \Delta PCAB_{t-5} + \gamma_1 \Delta RCAB_{t-1} + \gamma_1 \Delta RCAB_{t-1} + \gamma_2 \Delta RCAB_{t-2} + \gamma_3 \Delta RCAB_{t-3} + \gamma_4 \Delta RCAB_{t-4} + \gamma_5 \Delta RCAB_{t-5} \tag{2}$$

The results of estimation are available in Table 3.

Table 3: Error correction term - ECT

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	48.65284	13.07248	3.721777	0.0004
ECT(-1)	0.279068	0.076554	3.645386	0.0006
DPCAB(-1)	0.731363	0.136543	5.356299	0.0000
DPCAB(-2)	-0.097282	0.157703	-0.616867	0.5396
DPCAB(-3)	0.071599	0.157365	0.454987	0.6507
DPCAB(-4)	0.127394	0.161444	0.789089	0.4331
DPCAB(-5)	-0.095327	0.111186	-0.857362	0.3946
DRCAB(-1)	0.531873	0.120875	4.400187	0.0000
DRCAB(-2)	0.262493	0.093960	2.793663	0.0070
DRCAB(-3)	0.168260	0.054878	3.066086	0.0032
DRCAB(-4)	0.140716	0.037487	3.753758	0.0004
DRCAB(-5)	0.069366	0.042576	1.629220	0.1084

Source: Author's calculation

The error correction term is statistically significant with a corresponding coefficient of 0.28. These findings suggest that the gap between total revenues of trade balance of goods and total expenses is quarterly increased by 0.28 percentage points. This confirms the hypothesis that the trade balance of goods in is unsustainable in the Croatia.

4. Conclusion

This paper explores the sustainability of the current account (trade balance of goods) in Croatia. The growing external imbalances and the differing adaptation of EU Member States in crisis, raise questions about the structure of the economy and competitiveness. Croatia lacks in competitiveness and is faced with unfavorable production structure. Croatian economy was the last, among comparable EU countries, that reached pre-crisis level of GDP. An important objective of economic policy is the achievement of a sustainable external balance. Long-term goods account deficits send a clear message about the vulnerability of the Croatia' external position. The results confirmed the hypothesis of an unsustainable current account balance in the Republic of Croatia. The error correction term suggests that current account revenues and expenses diverge from one another, making the external imbalance unsustainable.

Further research should include determinants of current account in VECM model and also deal with comparison with similar EU countries.

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APPENDICES

Table 4: VEC Residual Serial Correlation LM Tests

Included observations: 71						
Null hypothesis: No serial correlation at lag h						
Lag	LRE* stat	df	Prob.	Rao F-stat	df	Prob.
1	6.404802	4	0.1709	1.633448	(4, 110.0)	0.1709
2	5.053493	4	0.2819	1.280929	(4, 110.0)	0.2819
3	7.450646	4	0.1139	1.909241	(4, 110.0)	0.1139
4	7.201246	4	0.1256	1.843237	(4, 110.0)	0.1257
5	2.256177	4	0.6888	0.564682	(4, 110.0)	0.6888
6	7.646315	4	0.1054	1.961129	(4, 110.0)	0.1055
Null hypothesis: No serial correlation at lags 1 to h						
Lag	LRE* stat	df	Prob.	Rao F-stat	df	Prob.
1	6.404802	4	0.1709	1.633448	(4, 110.0)	0.1709
2	13.60593	8	0.0926	1.761591	(8, 106.0)	0.0928
3	16.55681	12	0.1670	1.422478	(12, 102.0)	0.1678
4	18.35696	16	0.3034	1.170129	(16, 98.0)	0.3054
5	20.71935	20	0.4138	1.047249	(20, 94.0)	0.4176
6	28.48174	24	0.2402	1.221657	(24, 90.0)	0.2459
*Edgeworth expansion corrected likelihood ratio statistic.						

Source: Author's calculation

Table 5: Heteroskedasticity test

Heteroskedasticity Test: Breusch-Pagan-Godfrey
Null hypothesis: Homoskedasticity

F-statistic	0.436244	Prob. $F_{(5,4)}$	0.8064
Obs*R-squared	3.528785	Prob. Chi-Square(5)	0.6190
Scaled explained SS	0.363544	Prob. Chi-Square(5)	0.9963

Source: Author's calculation

Table 6: Normality test

VEC Residual Normality Tests
Orthogonalization: Cholesky (Lutkepohl)
Null Hypothesis: Residuals are multivariate normal
Included observations: 71

Component	Skewness	Chi-sq	df	Prob.*
1	0.117767	0.164117	1	0.6854
2	-0.218249	0.563651	1	0.4528
Joint		0.727768	2	0.6950

Component	Kurtosis	Chi-sq	df	Prob.
1	2.918575	0.019614	1	0.8886
2	2.899302	0.029998	1	0.8625
Joint		0.049612	2	0.9755

Component	Jarque-Bera	df	Prob.
1	0.183731	2	0.9122
2	0.593649	2	0.7432
Joint	0.777380	4	0.9415

*Approximate p-values do not account for coefficient estimation

Source: Author's calculation

A scientific paper

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REWRITING THE EXPORT FUNCTION: THE ROLE OF NON-PRICE COMPETITIVENESS FACTORS IN BOOSTING EXPORTS IN THE REPUBLIC OF CROATIA

ABSTRACT

The goal of this paper is to empirically reveal the role of non-price competitiveness factors in encouraging exports in the Republic of Croatia. Based on a traditional view on export function, exports depend on foreign demand and the real exchange rate that catches price competitiveness factors. However, for a small open economy that is part of the European Union market, it is crucial to think outside of the standard definition of an export function. Croatia is competing on the integrated international market with other EU and non-EU countries, among which eastern non-EU countries enter the market with very low unit labor costs. In such conditions and in societies with growing needs and developed new, innovative products, it is not enough to compete with price, especially not through lowering the unit labor costs. Such economic policy measures do not contribute to export growth as much as they adversely affect the well-being of the domestic economy. In order to test the impact of non-price competitiveness in boosting Croatian exports, in this paper is applied regression analysis. Results of the econometric analysis indicate that the cause of the weak export performance in the Republic of Croatia may exist due to low non-price competitiveness. In addition, the results of the research highlight the importance of fostering the non-price competitiveness factors in order to reset the Croatian export structure that is currently mostly based on products with low technology intensity. In other words, the complexity of the Croatian export basket is unfavorable. This paper contributes to finding the answers to the causes of low exports in the Republic of Croatia.

Key words: *export function, non-price competitiveness, regression analysis.*

1. Introduction

Competitiveness is one of the main goals of every economy. Ensuring competitiveness enables businesses to be more integrated into global value chains, create jobs and sustain economic growth in a country. Competitiveness has multiple definitions and levels of study, but in the broadest sense, competitiveness can be defined as "the ability of individuals, companies, local communities, clusters, nation-states and regions to compete and be better, more innovative and more creative than other actors at the local, national, the regional and global markets in value-added creation" (Dragičević, 2012, p. 14). For small open economies characterized with high levels of current account and capital account liberalization, such as Croatia is, improving

competitiveness comes down to improving export competitiveness (Denona-Bogović i Peteh, 2007). Therefore, in this paper, competitiveness is measured as export competitiveness.

Traditionally, exports function was explained with foreign demand and real exchange rate that caught the price determinants of competitiveness. Still, despite the high role of price competitiveness, there are many non-price aspects of competitiveness that should be considered when addressing this problem. There is no unique definition of non-price competitive factors, but they include all those factors, other than the real effective exchange rate and foreign demand, that affect export performance, such as product quality, business environment, share of R&D expenditure in gross domestic product, technological advances and similar (Monteagudo and Montaruli, 2009). It is clear that the determinants of competitiveness are multiple and are reflected, among other things, through high and efficient R&D investments that create innovation, investment in education, efficient transport and digital infrastructure. Improvements in these areas can increase competitiveness and thus contribute to sustainable economic growth (Cazacu, 2015; Rogić Dumančić and Mačkić, 2017).

Also, in order to increase the overall competitiveness of the EU, the European Commission has adopted the Europe 2020 Strategy and set key objectives, the achievement of which consequently contributes to the growth of competitiveness. EU member states are going through some changes in form of combined globalization effects and technological, environmental and demographic change. New markets are being created, value chains are being reconfigured and competitive conditions are changing. This puts pressure on industries, labor relations and social contracts. A key challenge for the coming decade for each country is to increase the competitiveness and contribute to deeper integration among EU member states among with greater social cohesion. The way to achieve this competitiveness growth is through investment in research and development, human capital, skills and lifelong learning. These are all the segments of non-price competitiveness.

Among EU28 Member States, in 2018 (Figure 1) Sweden (3.31%), Austria (3.17%), Germany (3.13%) and Denmark (3) have invested most in R&D. 03%). Romania (0.51%), Cyprus (0.55%), Malta (0.55%) and Latvia (0.64%) are in the interface. In 2018, the Republic of Croatia allocated 0.97% of its GDP to R&D. This situation is not satisfactory for Croatia, given that innovation policies are a necessary prerequisite for increasing technological competitiveness, which is reflected through product innovation and process innovation. For creating products with a higher technology base, post transition countries, which are generally at the bottom of the R&D investment ladder, should implement economic policy measures that foster innovation policies. Specifically, demand for products with a higher technology base remains high in recession as well. These are difficult-to-replace products, which, because of the knowledge embodied in them, bring added value over a longer period of time and make countries with such products more competitive in the international market. Due to their high non-price competitiveness, such products enable the economy to grow sustainably and adapt more quickly to shocks. Investment in R&D directly contributes to reducing the inequalities that are visible among EU Member States.

Figure 1: R&D investment (%GDP) in 2018
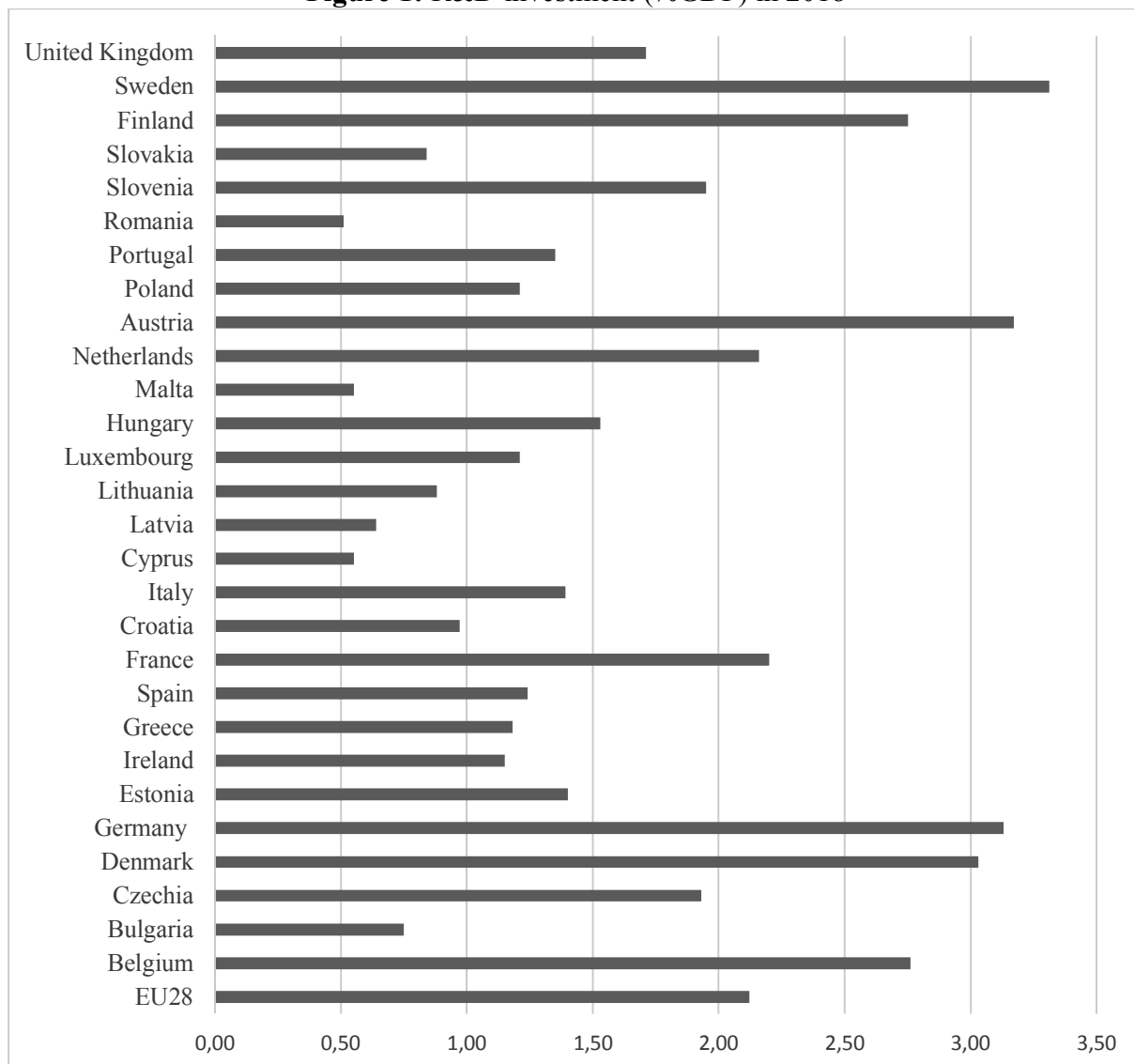
Note: UK is no longer part of the EU (from January 2020).
Source: Eurostat (2019)

Figure 2 represents the share of export of goods in gross domestic product in 2019 for post transition countries. Croatia is on the last place with the share of 23,8%. This clearly implies the lack of competitiveness in goods.

Figure 2: Export of goods (% GDP) in 2019
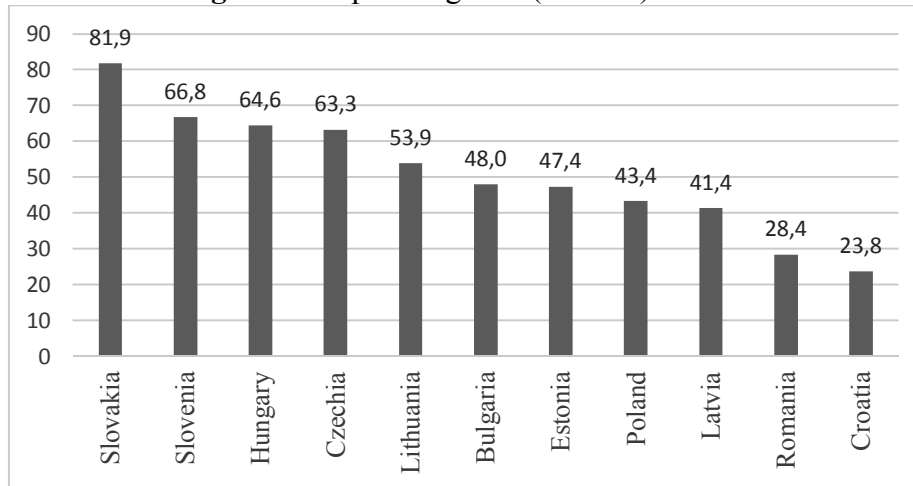
Source: Eurostat (2019)

Among the non-price factors is a particular emphasis on the quality and complexity of the product. Atlas of economic complexity (2017) displays the product complexity of one economy and ranks the country. In 2017 (the latest available data), among 124 countries ranked by production complexity, Croatia ranks 30th. Less than 10% of Croatian export products are in the most complex production category, which is not sufficient. The unfavorable structure of Croatian exports is a consequence of the investment of capital in services and the sector of internationally untradeable goods, not in production.

This paper contributes to the literature by empirically assessing the export function in the Republic of Croatia by including the non-price competitiveness factors. The results confirm the impact of non-price competitiveness in boosting the goods exports in Croatia.

The paper is organized in four sections. Section 2 presents the literature review on competitiveness in Croatia. Empirical model is presented in section 3, together with the obtained results. Finally, section 4 concludes the findings of this research.

2. Literature review

So far, the price competitiveness factors of exports have largely been the topic of many previous studies, while the impact of non-price factors has been largely neglected. However, more and more studies analyses the role of non-price competitiveness factors. Export performance cannot be evaluated only with the average quantity of exports with respect do relative prices, but also with export variety and quality (Benkovskis and Rimgailaite, 2010; Benkovskis and Worz, 2012).

The relationship between export competitiveness and innovation intensity is confirmed in many studies. Frantzen (2007) reports the positive relationship between research and development investments and its impact on export structure. Such results are also confirmed in Bezić and Karanikić (2014) and Rogić (2014). Among non-price competitiveness factors are highlighted the number of patents. The positive relationship is found in Zulkhibri, 2015. Hausmann, Hwang and Rodrik (2007), Athanasoglou and Bardaka (2010) and Antimiani and Constantini (2013) highlight the vital role of non-price competitiveness in explaining the export performance and positive change in its structure. Rogić Dumančić and Mačkić (2017) also suggest the high role of non-price competitiveness factors in the case of the new EU member states. Algieri (2015)

reports the importance of non-price competitiveness over the price driven factors. Benkovskis and Worz (2016) highlight the crucial importance of non-price competitiveness in emerging countries' performance on external markets.

When analyzing the Republic of Croatia, Rogić and Bogdan (2012) point out that one of the major reasons contributing to the sluggish growth is lack of competitiveness. Authors suggest the labor market adjustment and structural reforms. Jakšić and Žmuk (2014) state that the main reason of slow export recovery after the recent crisis can be found in structural weakness of Croatian economy, not in external spillovers. Furthermore, authors highlight that in Croatia real exchange rate is one of the main determinants of export dynamics. This implies the weak non-price competitiveness of Croatian exports. This previous conclusion is supported by Kersan Škabić and Zubin (2009), pointing out that despite the high level of direct investment, Croatia has not been able to significantly increase the production of high technology products. Kovač (2012) states that Croatia requires the export increase, especially in the product category of high economic complexity. Authors highlights the disadvantages of the export strategy, such as the insufficient production capacities and low technological development. Weak competitiveness significantly determine the prospect of future growth of Croatian exports (Ćudina, Lukinić Čardić and Sušić, 2012). Šokčević (2008) suggest shifting production structure towards the industries with higher share of sophisticated technology and product complexity in order to improve Croatian exports. The unfavorable production structure is also discussed by Čondić Jurakić (2010), pointing out that Croatia has the highest degree of specialization in the low-tech industry. The importance of non-price competitiveness in Croatia is confirmed in Tica (2012) and Stojčić (2012).

Finally, in order to increase the share of exports it is crucial to improve non-price competitiveness factors, especially for the small open economy with low product complexity.

3. Empirical model and results

This paper investigates the impact of non-price competitiveness factors in export function. In order to test the impact of non-price competitiveness in boosting Croatian exports, in this paper is applied regression analysis. The regression parameters were estimated using the *Least Squares Method*. The idea of the least square method is to minimize the sum of squares of the deviation of the empirical values of the dependent variable 1_1 of the estimated or regression values (Bahovec and Erjavec, 2009). The data used in the analysis is yearly real exports of goods. Depending on the data availability, the analysis covers the period from the 1999 until the 2019. Data description and sources are available in Table 1. Dependent variable in the analysis measures competitiveness through export competitiveness. Explanatory variables are grouped into two sets of determinants: price and non-price competitiveness factors (Table 1). Also, export depends not only on price and non-price competitiveness factors, but also on the business cycle of Croatia's trade partners. This is why the foreign demand is includes in model as control variable.

Table 1: Data description and sources

	Variable	Label	Time	Measure	Source	The expected theoretical sign
Dependent variable	Exports of goods	EXPORTS	1999-2018	Index 2015=100	Eurostat	
Price competitiveness factors	Real effective exchange rate (deflator: consumer price index - 27 trading partners - European Union from 2020)	REER	1999-2018	Index, 2010=100	Eurostat	-
	Terms of trade	TT	1999-2019	indeks, 2005=100	Ameco	+
Non-price competitiveness factors	Research and development expenditure (% of GDP)	RD	1999-2017	%BDP	World Bank – World Development Indicators	+
	Percentage of the ICT sector in GDP	ICT	2008-2017	Information and Communication Technology - Total	Eurostat	+
	Patent applications, residents	PATENT	1999-2018	NUMBER	World Bank – World Development Indicators	+
Control variables	Gross domestic product at market prices, EU15	GDPEU	1999-2018	Chain linked volumes, index 2015=100	Eurostat	+

Note: WDI, World Development Indicators
Source: author's representation

In order to measure the effect of price factor competitiveness, in model are included: real exchange rate and terms of trade. Real exchange rate (*REER*) is defined in way that the increase of index denotes real appreciation. Expected sign is negative, stating that real depreciation (fall of index) leads to higher exports. Deflator used is consumer price index - 27 trading partners. Terms of trade (*TT*) present the value of a country's exports relative to that of its imports. It is calculated by dividing export deflator by the import deflator, then multiplying the result by 100 (Eurostat, 2019). The expected sign is positive because higher export prices and/or lower import prices motivate the country to export its product and replace domestic demand with imports.

The second set of variables includes the non-price factor competitiveness. In model are included three variables: research and development expenditures, percentage of ICT (Information and Communication Technology) sector in gross domestic product and patent applications.

Research and development expenditures (*RD*) are gives as the percentage of gross domestic product. Greater R&D investment drives dynamic efficiency and leads to process and product innovation. This encourages non-price competitiveness factors through higher quality and complexity of the product. Therefore, the expected sign is positive. The percentage of ICT sector in gross domestic product (*ICT*) should also boost exports through higher market value in export basket and higher product complexity. Number of patents (*PATENT*) should also be in positive correlation with exports. However, it should be borne in mind that the effect may be absent as the number of patents realized may still be low.

The standard export function includes foreign demand and real exchange rate. The aim of this paper is to reveal empirically the role of non-price competitiveness factors in encouraging exports in the Republic of Croatia. Using the data described above, in this paper is estimated the following relationships:

(1) $EXPORTS = \beta_0 + \beta_1 * GDPEU + \beta_2 * REER + \beta_3 * RD + \beta_4 * ICT + \beta_5 * PATENT + \varepsilon$

(2) $EXPORTS = \beta_0 + \beta_1 * GDPEU + \beta_2 * TT + \beta_3 * RD + \beta_4 * ICT + \beta_5 * PATENT + \varepsilon$

for the different set of price but also the non-price competitiveness factors.

When analyzing the competitiveness of Croatian economy, especially when it includes the non-price factors of competitiveness, some restrictions on research should be stated. Those restrictions refer to the data availability that is mostly annual and covers a short time period. Some statistical test are asymptotic and have more power on larger samples. In addition, it is important to take into account the parsimony criterion. Accordingly, models with fewer parameters are preferred (Bahovec and Erjavec, 2009). Keeping in mind these limitations of research, in the next part of the paper are given the empirical results of the research. Estimates of first equations are presented in Table 2.

Table 2: Results - 1st equation

Variable	Coefficient	Std. Error	t-Statistic
C	-45.20405	28.20287	-1.602818
GDPEU	2.348141***	0.122122	19.22781
REER	-1.822887***	0.259459	-7.025732
ICT	18.22075***	1.284395	14.18625
RD	26.09770***	4.538608	5.750154
PATENT	-0.071478***	0.004376	-16.33546

Note:*Significance at the 10% level; ** significance at the 5% level; ***significance at the 1% level.
The estimated equation satisfies the model's adequacy tests (see Appendices).
Source: author's calculation

The results imply the significance of all non-price competitiveness factors in the model. All explanatory variables are statistically significant in the model at the 1% level, with confirmed expected sign, except variable PATENT, which reports negative sign. As highlighted earlier in paper, the reason for small coefficient (weak impact) and negative sign can be found in low realization of patents in Republic of Croatia. This indicates a greater need for innovation policies in the Republic of Croatia.

In the second equation, instead of real exchange rate (*REER*) as traditional price competitiveness factor, terms of trade (*TT*) are included in the model. The estimates of the second equations are presented in Table 3.

Table 3: Results - 2nd equation

Variable	Coefficient	Std. Error	t-Statistic
C	-405.1739***	7701160	-5.261206
GDPEU	2.250273**	0.390108	5.768327
TT	1.571668**	0.709029	2.216649
ICT	2.249475**	5.531308	4.066805
RD	5.952396*	25.71764	2.314519
PATENT	-0.128753***	0.023408	-5.500334

Note:*Significance at the 10% level; ** significance at the 5% level; ***significance at the 1% level.
The estimated equation satisfies the model's adequacy tests (see Appendices).
Source: author's calculation

The results obtained from the second equation also confirm the role of non-price competitiveness factors in the Republic of Croatia. All variables are statistically significant in the model, with confirmed expected sign, except variable PATENT. Obtained results confirm the robustness of the given size and sign of coefficients for price and non-price variables.
Based on the given results, the role of non-price competitiveness factors in boosting the Croatia's exports is confirmed in this paper.

4. Conclusion

In this paper is confirmed the positive relationship between non-price factors of competitiveness and goods export. In both equations, all price and non-price competitiveness factors variables are statistically significant. The sign and the size of estimated coefficients do not vary in between two models. This supports the robustness of the obtained results. All variables confirmed the expected theoretical sign, besides variable *PATENT*. The low number of realized patents in Croatia can be seen as the reason for such results.

Furthermore, Croatia lacks in goods export competitiveness. Policyholders are mainly making the effort to maintain the price competitiveness of exports, notably by reducing unit labor costs. Considering the unfavorable production structure, Croatia should turn to policies that encourage innovation, smart specialization and the creation of higher complexity products, so that it can shift them to foreign demand and thus increase the export competitiveness. Policy recommendation that come from this paper's results support all such measures that improve the structure of exports and stimulate the transformation of production structure into innovation driven. Such measures cannot be trapped in domain of reducing the labor costs. Policy measure holders should think outside the box and rewrite the export functions for the Republic of Croatia by increasing the investing in research and development, supporting the sectors with high market value and complexity products and by supporting more the innovation process and dynamic efficiency. For the future research, authors can include additional measures of non-price factors of competitiveness that are connected to financial development, labor markets and government efficiency.

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APPENDICES

Table 4: Autocorrelation - equation 1

Autocorrelation	Partial Correlation		AC	PAC	Q-Stat	Prob
. ***| . |	. ***| . |	1	-0.434	-0.434	2.5120	0.113
. **| . |	.****| . |	2	-0.289	-0.588	3.7609	0.153

Autocorrelation	Partial Correlation		AC	PAC	Q-Stat	Prob
. |* . |	.***| . |	3	0.209	-0.461	4.5102	0.211
. |** . |	. | . |	4	0.244	-0.040	5.6986	0.223
.***| . |	. **| . |	5	-0.391	-0.279	9.3587	0.096
. |** . |	. |* . |	6	0.226	0.131	10.886	0.092
. | . |	. | . |	7	-0.015	0.014	10.895	0.143
. *| . |	. | . |	8	-0.079	-0.002	11.265	0.187
. | . |	. |* . |	9	0.028	0.077	11.359	0.252

SOURCE: Author's calculation

Table 5: Heteroskedasticity test - equation 1

Heteroskedasticity Test: Breusch-Pagan-Godfrey
Null hypothesis: Homoskedasticity

F-statistic	0.436244	Prob. F(5,4)	0.8064
Obs*R-squared	3.528785	Prob. Chi-Square(5)	0.6190
Scaled explained SS	0.363544	Prob. Chi-Square(5)	0.9963

Source: Author's calculation

Figure 3: Normality test - equation 1

Source: Author's calculation

Table 6: Autocorrelation - equation 2

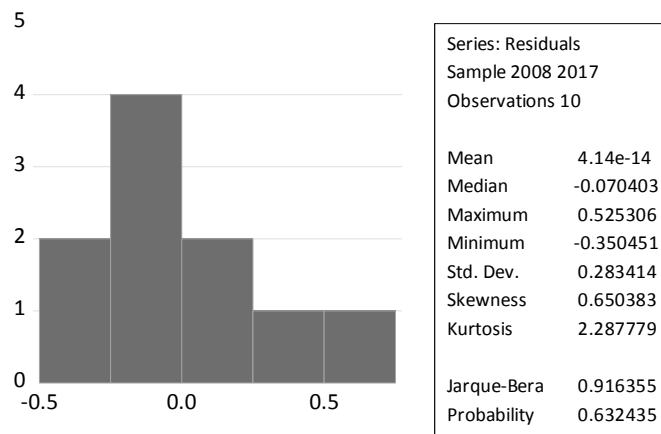| Autocorrelation	Partial Correlation		AC	PAC	Q-Stat	Prob
.***| . |	.***| . |	1	-0.413	-0.413	2.2755	0.131
. |** . |	. |* . |	2	0.263	0.111	3.3107	0.191
. **| . |	. *| . |	3	-0.227	-0.103	4.1911	0.242
. | . |	. *| . |	4	0.015	-0.157	4.1955	0.380
.***| . |	.****| . |	5	-0.405	-0.510	8.1238	0.150
. |** . |	. | . |	6	0.329	-0.000	11.364	0.078
. *| . |	. | . |	7	-0.188	0.033	12.772	0.078
. |* . |	. *| . |	8	0.161	-0.126	14.324	0.074
. | . |	. *| . |	9	-0.035	-0.163	14.472	0.107

Source: Author's calculation

Table 7: Heteroskedasticity test - equation 2

Heteroskedasticity Test: Breusch-Pagan-Godfrey
Null hypothesis: Homoskedasticity

F-statistic	0.223881	Prob. F(5,4)	0.9340
Obs*R-squared	2.186589	Prob. Chi-Square(5)	0.8228
Scaled explained SS	0.222085	Prob. Chi-Square(5)	0.9989

Source: Author's calculation

Figure 4: Normality test - equation 2
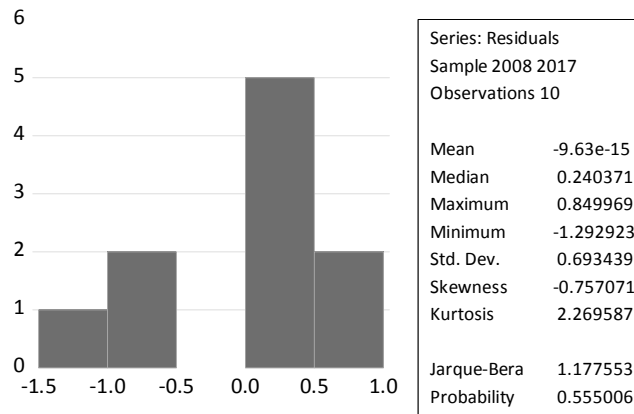
Source: Author's calculation

A scientific paper

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GREEN ROOFS AND SUSTAINABILITY OF URBANISATION

ABSTRACT

As the 21st century is heading towards the future heavily reliant on technology, smart systems and cities turning into mega-urbanised structures, the environmental issues and sustainable development remain firmly on the top of our evolutional concerns as a civilisation. Green infrastructure has become an inevitable element of urbanisation as it provides a valuable mitigation tool for the adverse impacts of climate change and continutes positvely to the quality of urban areas. The theoretical framework of this paper shall focus on literature findings regarding the benefits of green roofs as an element of green infrastructure in the context of the looping principles of the circular economy. The empirical part of the study aimed to conduct scientific research amongst the civil engineering students in Croatia, as a part of the Millennial generation that will be tomorrow's decision-makers. Findings suggest that Millennials from the tested sample in Croatia are aware of the environmental issues as well as the green roof concept, willing to consider including green roofs in their future urban environment whilst believing that they can make a personal, positive contribution on a local level in the reduction of climate risks. However, while praising very highly the presence of green infrastructure in the immediate living environment, they are almost indifferent to its absence and ranked this criterion very low when making employment decisions. Since Millennials are also rightfully concerned with the cost of green roofs design, construction and maintenance, authors find financial aspects of green infrastructure and green roofs in particular as an important direction of future research.

Key words: *green roofs, green infrastructure, Millennials, sustainable development, urbanisation, circular economy.*

1. Introduction

The existence of green roofs is an ancient concept in its essence and can be traced back in history to the creation of some of the very first human dwellings that were part of the natural environment. The most famous, ancient green roofs were the Hanging Gardens of Babylon. Considered as one of the Seven Wonders of the Ancient World, dating back to around 500 B.C., they were built over arched stone beams and waterproofed with layers of reeds and thick tar (Kaluvakolanu, 2007). Green roofs have evolved together with the progress of the human civilization and in particular within the urbanization of the settlings and therefore finally

became a legitimate element of urban development (Forschungsgesellschaft Landschaftsentwicklung Landschaftsbau, 2018).

Today most Europeans live in urban areas. According to the harmonised definition by Eurostat and the OECD, urban areas - defined as cities, towns and suburbs - provide a home to 72% of the EU 28's population; 41% live in cities and 31% in towns and suburbs with the concept of megacities becoming more common and on an increase (Nabielek K. et al., 2016).

Furthermore, United Nations' (UN) urbanization projections stated that, by 2030, the number of megacities with a population of more than 10 million is projected to be 43 (UN, 2019). The problem is that cities consume 60-80% of global primary energy and 60–80% of natural resources, and at the same time they produce 50% of global waste and 75% of greenhouse gas emissions (EC, 2016a; Camaren et al., 2012)

According to the census conducted by the Croatian Bureau of Statistics (2011), Croatia has a total of 4 284 889 inhabitants, with 1 279 853 citizens or 29.8% living in 5 largest cities, Zagreb (790 017), Split, Rijeka, Osijek and Zadar. So as Croatia is getting nearer to the global trend of population predominately living in urban areas, all the already mentioned issues of global cities and urbanisation are increasingly becoming our national issues as well.

In order to transform modern cities into more sustainable environments, they need to develop a more circular metabolism where more resources are recycled, reused or produced on-site and energy is produced and consumed in cleaner forms (Doughty and Hammond, 2004). Green buildings have been considered as a suitable socio-technical innovation to reduce the environmental and natural resource footprints of growing cities (Bergesen et al., 2017).

According to Dinulović (2014) the key question when it comes to architecture is not the design of spatial borders or space itself, but rather the core preoccupation of architecture should be a human life itself. By saying this, the focus is shifted to personal responsibility and in architecture, he propagates that all energy should be focused on building a world that will make human life more valuable. In this case, the individual responsibility is high, as well as the right to our own view of the world, regaining the confidence, reclaiming the space and recognising our continuity.

The primary aim of this paper is to set out a review of key green roof benefits, general characteristics and innovative aspects. The secondary aim of this paper is to carry out a questionnaire among the sample of Croatian millennials in order to establish what are their opinions and inclinations relating to green roofs.

2. Methodology and methods used

Two main research phases were carried out in the preparation of this paper, the first was a literature review and the other was the survey based on a questionnaire for the purpose of collecting and analysing empirical research data. With regards to the questionnaire, the specific group of participants was chosen - Millennials, also known as Generation Y. Millennials have been chosen because they are the generation largely considered to be born during the late 80s and 90s and as such, they will represent the key decision-makers in next decade and further on (Šandrk Nukić, 2017) and will make a significant contribution in spatial changes, environment and society we live in.

The literature review intended to explore the existing body of knowledge regarding green infrastructure (GI) and especially green roofs, aiming to identify key opportunities as well as potential research gaps. In the course of the literature review, but also during the second research phase, for the purpose of results interpretation, several scientific methods have been used: analysis, synthesis, comparison and derived conclusions based on inductive and deductive methods.

As Millennials are known for their aptness and fondness (Amaro at al., 2019) in using internet and technology in many shapes and forms, in order to achieve the best possible response rate and make the participation in this research interesting and fast, authors decided to use the online questionnaire form that can be accessed via the internet and filled in on any device with access to internet. In addition, to minimize the risk of low response, some questionnaires have been handed out at the end of the lectures, where possible. In total 167 students from 4 faculties were surveyed, creating a national research sample pool.

Two types of questions were used in this research, open and closed-end ones in order to collect the best possible data. Open-ended questions were used to test the existing knowledge of the participants with regards to green roofs, while closed-end questions aimed to determine the perception of importance relating to issues such as: climate change, sustainable development, green infrastructure and financial benefits of GI. Closed-end questions were based on a Likert 5-point scale, in which 1 stood for not important at all and 5 representing the most important. Lastly, the questionnaire incorporated several control questions in order to identify the basic personal characteristics of the participants involved.

3. Green roofs – from core structural concepts to sustainable development

According to the European Commission (2019a), the climate is continously changing as the atmosphere is getting warmer year by year while at the same time natural environment is being polluted and destroyed. One million of the eight million species on the planet are at risk of being lost which is s a great concern for the future of biodiversity. Green Infrastructure (GI) can play a key role in mitigating this risk.

Green roofs are part of green infrastructure, which has been defined as "a network of healthy ecosystems – serves the interests of both people and nature" (European Commission, 2015). According to EU Communication 52013DC0249 (European Commission, 2013), GI includes natural and semi-natural areas, features and green spaces –ranging from large wilderness areas to green roofs, in rural and urban, terrestrial, freshwater, coastal and marine areas.

Green roofs are a topic that can be considered and explored in a myriad of ways but one that has been recognized as important but not yet sufficiently researched in the context of a circular economy. According to Intergovernmental Panel on Climate Change (2018), GI presents a promising measure to improve the climate resilience of urban areas and at the same time enhance biodiversity and quality of life for people (Scharf and Kraus, 2019).

To better understand the relation to this concept, it is worth mentioning the importance of designing cities for increased circular metabolism. Corcelli et al. (2019) claim that the potential of unused, urban areas such as rooftops and their conversion into productive ones, can result in multiple benefits for sustainable urban development. By integrating green roofs and GI technologies early into the urban planning processes, urban planning will have an important role to play in optimizing the circular/looping patterns in highly urbanised areas.

Both the term and the idea of looping activities emerged from the European Commission's Circular Economy Package (European Commission, 2019b), aiming to stimulate the transition of the European economy towards circular principles and sustainable economic growth. The Package incorporated the Circular Economy Action Plan, which suggested specific measures that, all together, close the loop of product lifecycles – from production, to consumption and waste management, enabling so the balance among economy, society and environment.

The Circular Economy Action Plan advocates a so-called 3R principle - reduce, reuse, recycle - in all areas of economic activities. With regards to the construction industry and urbanization, green roofs are one of the most important 3R eligible elements. Therefore, they are within the scope of this paper.

Urbanisation as a concept can be perceived as a link in a chain of human development that has always been connected with the natural environment, as its roots. In time, spaces containing natural elements such as: vegetation, microorganisms, soil, rocks, atmosphere and natural phenomena have evolved into areas that were initially spaces. This natural system has then been influenced gradually by the human-driven global change (Ashander et al., 2019.) that has resulted in numerous urbanisation effects such as: reduced ability to absorb and retain heat in the cities, loss of surface permeability and reduction of evapotranspiration, increase of environmental heating, etc. (Macintyre and Haviside, 2019).

Adopting a circular approach to resource management, energy, food, water - all elements included in the rooftop greenhouses (RTGs) in the cities could help to address these problems and bring cities closer to the next stage of the urban space. Williams (2019), states that creating urban areas which support looping activities represents a new stepping stone on the path to the sustainability of our society.

The European Green Deal (European Commission, 2019a) recognises both environmental and economic challenges and provides a plan for their solution. The Deal can be seen as a new growth strategy that aims to transform the EU into a fair and prosperous society, with a modern, resource-efficient and competitive economy where there are no net emissions of greenhouse gases in 2050 and where economic growth is decoupled from resource use. While doing so, this Deal aims to protect, conserve and enhance the EU's natural capital and protect the health and well-being of citizens from environment-related risks and impacts. Green infrastructure and green roofs in particular can be one of the key elements of these solutions.

When considering specific green roof benefits, there are several, some more obvious and well-known, others less so. Despite the existence of endless categorisation of green roof benefits in broad terms, in this paper, they have been separated into two wide categories: ecological/environmental benefits and economic/environmental benefits. The line between the categories is not a clear one, and very often a benefit can be placed in both of them, therefore the division is fluid and subject to an individual perception of priorities. But whichever point of view one chooses to analyse them from, the key benefits follow.

4. Ecological & environmental benefits as a chance of climate change mitigation

4.1. Reduction of heating of the environment

When thinking about global warming with regards to GI, the benefit of reduction of heating in the environment often comes to mind. Especially in connection to the concept of Urban Heat

Island (UHI) that is commonly used to describe an increase of the air temperature in the cities, a phenomenon defined by one of the pioneers in the field - Luke Howard, back in early 19. century (1818). Extremely urbanised areas show a tendency towards higher temperatures due to the UHI effect (Macintyre and Haviside, 2019).

According to Ashander (2019), human-driven globalization changes positively contribute towards the increase of the air temperature in cities. United States Environmental Protection Agency (USEPA) revealed (2003) that urban air temperatures can be up to 5.6° C warmer than the surrounding countryside. In an urban heat island effect situation, even night air temperatures are warmer because built surfaces absorb heat and radiate it back during the evening hours. In Berlin, temperatures on a clear windless night were 9°C higher than in the countryside (Von Stulpnagel et al., 1990).

There are many factors influencing temperature rise in the cities. This rise happens, in part, as a result of natural climate change leading to more hot weather but other factors are directly human-driven such as: transportation, heating infrastructure, industrialization or technology. Because of the health effects associated with excess heat, the Environmental Protection Agency (EPA) has developed a Heat Island Reduction Initiative. Through this program, the EPA works with researchers, community groups, and public officials to identify and implement methods that reduce heat islands. They cite that excessively hot air temperatures can result in physiological disruptions, organ damage and death (USEPA, 2003).

Widespread adoption of vegetative rooftops, through increased albedo and evapotranspiration, reduces temperatures in the urban environment by as much as 3°C (Smith and Roebber, 2011). Installation of GI that mitigates the effect of "overheating in cities" can contribute towards the heat reduction (Santamouris, 2014) and by doing so, simultaneously have a positive impact on health by reduction of heat-related mortality caused by heatwaves in cities.

4.2. Better management of stormwater runoff

The water retention effect depends on multiple factors and the main ones are: substrate depth, roof slope, sun exposure, structural design and plant species. This being said, it is important also to mention weather factors including the intensity of rainfall.

As urbanization advances throughout history, surfaces become more covered and used up in various types of building and construction, i.e. spatial organization and use. With it increases the number of impervious surfaces that are unable to absorb precipitation. This causes water to flow off surfaces and reduces infiltration into groundwater. Forests absorb up to 95% of rainfall, whereas cities only about 25% (Scholz–Barth, 2001).

Excessive runoff increases the chances for flooding downstream as stormwater exceeds channel capacities, which results in the probability that t properties will be negatively affected and humans harmed. In addition, a high volume of stormwater runoff can also overwhelm municipal sewer systems. Combined sewer systems consist of a single pipe that takes wastewater and stormwater to treatment plants. In situations when stormwater exceeds capacity, the combined sewage can overflow into relief points, resulting in raw waste being dumped into our rivers, an event called a combined sewage overflow (Getter and Rowe, 2006).

According to Kolb (2004), probably the single greatest environmental service that green roofs can provide is the reduction of total amounts of stormwater runoff. In a green roof system, most

of the precipitation is captured in the media or vegetation and will eventually evaporate from the soil surface or will be released back into the atmosphere by transpiration. He reported that 45% of all rainfall can be recycled in this manner.

Kemp et al. found (2018) that by varying plant selection levels of the green roof, evaporization of rainfall water can differentiate. They proved that species with high evapotransportation (ET) rates (Salvia and Stachys) were able to provide the greatest stormwater management service, up to 72% retention due to the ET component.

As there is a growing number of water-stressed cities, GI and green roofs, in particular, can be part of the solution (Richter et al., 2013). Rainfall recycling mitigates, and at the same time stores and enables, usage of excess water. In that way this benefit is directly connected with looping principles and the size of this circular economy potential can be illustrated by Washington D.C. case, in which it has been concluded that if 20% of all buildings in Washington, D.C., that could have a green roof had one, they would add more than 71 million liters to the city's stormwater storage capacity and store ~958 million L of rainwater in an average year (Getter and Rowe, 2006).

4.3. (True) influence on biodiversity

Another benefit of GI is a positive contribution to increased biodiversity in urban areas. Although this is one of the more obvious and better-known benefits of green roof installation, the true value and extent of this benefit is far from well known to the public.

Green roofs are so valuable for habitat diversification and preservation because most of them are predominantly inaccessible to the public and therefore provide undisturbed habitat for microorganisms, insects and birds. In a biodiversity study of 17 green roofs in Basel, Switzerland, 78 spider and 254 beetle species were identified during the first 3 years. Out of these totals, 18% percent of the spiders and 11% of the beetles were listed as endangered or rare (Brenneisen, 2003). In a West Berlin study of 50-year-old green roofs, Darius and Drepper (1984) found grasshoppers, white grubs, beetles and a high number of mites, completely adapted to living in this location. In northeastern Switzerland, 9 orchid species and other rare or endangered plant species existed on a 90-year-old roof green roof (Brenneisen, 2004). Therefore, green roofs have proven to be a great way to restore native plant species in a specific area (Dewey et al., 2004) as well as preserve endangered ones.

4.4. Reduction of air pollution

The next benefit of green roofs is their positive influence on air quality, especially in urban, build-up areas. According to European Commision, (2008) citizens in urban areas are in contact with high levels of pollutants which can have an adverse impact on human health. In particular, lower levels of ozone can contain various levels of smog, particularly during hot weather seasons. This situation makes more vulnerable citizens, such as children, the elderly and people with heart and respiratory conditions, especially at risk of exposure to air pollution. Therefore, air quality can play a significant role in the well being of people living in cities. Research suggests that reduction of air pollution through the installation of green roofs can be a valuable mitigation measure and could substantially reduce the impact of urban air pollution, thus enhancing city life (Currie and Bass, 2008).

Plants can filter out particulate matter and gaseous pollutants in the air since particles are being eventually washed away into the soil and some of the pollutants are absorbed into plant tissues. In this way, green roofs can alleviate various airborne contaminants. A German study proved that green roof vegetation can significantly reduce diesel engine air pollution (Liesecke and Borgwardt, 1997). Yok Tan and Sia (2005) found a reduction of 37% sulfur dioxide and 21% nitrous acid directly above a newly installed green roof. Others have estimated that green roofs can remove dust particles of 0.2 kg of particulates per year per square meter of grass roof (Peck and Kuhn, 2001).

4.5. Reduction of noise pollution

This negative effect of urbanization according to Getter and Rowe (2006) arises as hard surfaces in urban areas are more likely reflect sound, whereas green roofs absorb sound waves because of the nature of the substrate and plants.

At the airport in Frankfurt, Germany, there is a 10 cm deep green roof that reduces noise levels by 5 dB (Dunnett and Kingsbury, 2004). Other research shows that 12 cm of green roof substrate can diminish noise by 40 dB (Peck and Kuhn, 2001). There have been ample scientific studies on the adverse effects of noise exposure to humans, hearing impairment, hypertension and ischemic heart disease, annoyance, sleep disturbance and decreased school performance are just some of the problems that have been identified (Passchier–Vermeer and Passchier, 2000).

5. Economic & environmental benefits as opportunities for improvement of urban areas

5.1. Green roof as a potential production plant

With regards to production potential and benefits of green roofs in the sense of industrial plant, green roofs can be used for: energy production by installing solar panels; food production by planting edible plants or business ventures by planting flowers or any other seedling for sale (or for individual use). These uses can all exist on their own or be implemented as mixed use solutions, as in the case of RTGs.

The concept of rooftop farms has become more and more common in Europe. For example, the City of Paris has committed to planting 100 hectares of vegetation across the capital by 2020. As part of the project, this year the biggest roof-top farm has been constructed and some prestigious institutions contributed to the project as well, as presented in Figure 1.

Figure 1: Green roof on "Le Cordon Bleu", cooking school, Paris

Source: ZinCo Group Systems

This concept can be complemented with energy production which leads to the concept of rooftop greenhouses. By using the urban rooftop's sunlight exposure and creating new agricultural spaces as well as installing solar photovoltaic panels, benefits are being generated from the production of clean energy.

Building-Applied Photovoltaics, generate considerable fractions of urban electricity without the need for dedicating exclusive surface areas for solar photovoltaic plant installations (Santos and Rüther, 2012). Shapes and types of photovoltaic (PV) devices available on the common market are changing and are being innovated all the time (solar glass roof tiles or solar shingles are considered to be some of the most advanced solar products currently on the market) which makes their installation and use easier and more desirable. Installation cost is also depleting over time as both offer and demand are growing, making this solution less of a novelty and more of a standard requirement.

Finally, according to Marucci and Cappuccini (2016), potentially improved performance of both food and energy production in the future may be achieved through their synergy. Some already conducted tests indicate that PV panels are more efficient when placed over the green roof, where green roofs cool down the cells through evapotranspiration (Köhler et al., 2007), while the PV panels shade the plants, reduce exposure to sun favouring heat-sensitive crops. Therefore, sustainable rooftop planning for urban buildings can lead to multifunctional uses of the same roof through the integration or the coexistence of both researched systems (Corcelli et al., 2019).

5.2. Improved aesthetic value

This benefit as an aspect of green roofs comes from the fact that when humans look at their surroundings and living environment they value highly a view of green plants and nature. This has proven to have beneficial health effects, such as reducing stress, lowering blood pressure, releasing muscle tension, and increasing positive feelings (Ulrich and Simmons, 1986) and if we look for the added value of those benefits we can say that it can be translated into improved health and work productivity. Kaplan (1988) identified in his research that employees who had a view of nature, such as trees and flowers, were less stressed, experienced greater job satisfaction and thus reported fewer headaches and other illnesses than those who had no natural view. However, this desirable view of calm and de-stressing attributes can contribute towards increases in house prices as properties with such a setting can be priced higher on the property market.

5.3. Innovations and green roofs

A concept of green roofs as an element of urban green infrastructure is a relatively new concept, with the first green roof systems having been developed and marketed on a large scale in the early seventies in Germany. This was followed by the publication of a set of green roof standards and guidelines known as the "Guidelines for the Planning, Construction and Maintenance of Green Roofing," commonly referred to as the German FLL Guidelines for green roofs (FLL, 2008). FLL has also become a valuable reference and a guideline for other national legislation to be written, such as British *The Code of Practice for green roofs in the UK* or Austrian Standard ÖNORM L 1131 by the name of *Horticulture and landscaping - Green area on roofs and ceilings of buildings - Directives for planning, building and maintenance.*

However, the most important recent changes and improvements to the guidelines are related to downcycling and upcycling. These elements of innovation in relation to green roof structure can be interpreted as a great sign that green roofs are following closely the needs and views of new generations of urban dwellers and the civil engineering industry. Knowing that innovation is essential for sustainable growth and economic development (Shquipe and Veland, 2010) both downcycling and upcycling demonstrate a continuous intention to deliver better results as well as comply with higher standards as we progress towards the cities of the future.

5.3.1. Downcycling or recycling

The widely accepted and known term of recycling is a process that involves converting materials and products into new materials of lesser quality. Due to the decrease in the quality of material obtained, recycling is often called downcycling, as well (European Commission, 2016b).

One of the most interesting and, at the same time most prominent innovations of the "conventional" green roof construction, is the use of recycled materials i.e. aggregates in green roof substrates in order to replace natural resources.

Extensive green roofs are, in most cases, designed with a substrate layer that contains a high percentage (up to 90%) of aggregate and a small amount of organic material. This not only provides a low nutrient growing substrate which is ideal for green roof vegetation (Molineux et al., 2015) but also reduces the extra roof weight. Problems can occur with either the addition of 'soil' and its clay fraction causing reduced water transmissivity, or excessive compost/organic matter risking substrate shrinkage (Snodgrass and Snodgrass, 2006).

There is scientific proof that recycled aggregate can provide an efficient green roof with the typical characteristics of a green roof with standard aggregate, whilst positively contributing to construction waste reduction and reduction of cost of green roof installation. For instance, an investigation of recycled lightweight aggregates and their combinations on green roofs conducted by Moulinex et al. (2015) has shown that recycled lightweight aggregates such as crushed brick aggregate can be successfully used as the alternative substrate for supporting plant establishment. For some materials, such as clay pellets, there was increased plant coverage and a higher number of plant species than in any other substrate. Substrates that were produced from a blend of two or three aggregate types also supported higher plant abundance and diversity. However, like with most innovative activities, more research is required in order to make more reliable conclusions.

5.3.2. Upcycling

While downcycling stands for something of reduced value, the term upcycling is being used when recycled materials generate something with an increased, additional value.

Upcycling was initially embraced by the upcycling pioneer Reiner Pilz, a mechanical engineer from Germany who started working in interior design in 1979, using antiques and salvaged materials, restoring them and then using them as something else of greater value and by doing so increasing their initial value (Kay, 1994).

This principle can also be applied to green roof construction, particularly in smaller dimension roofs, where for example, a wooden material used in making a palette can be employed to make

an entire shed, or a pet home with a green roof on top, resulting in a new product with increased value.

6. The views of Millenials's on green roofs in Croatia

Considering the number and significance of green roof opportunities in terms of the circular economy, authors of this paper found it relevant to investigate the views of a national sample of Millenials, in order to identify Croatia's openness to green roofs as part of a modern urban environment. The findings are presented below.

The initial stage of the research design included the selection of participants for the empirical part of the research. As this paper presents, through an extensive review of the literature on the benefits of green roofs with regards to urbanization and environmental issues, the empirical research was aimed at conducting a "reality check" in the form of gathering opinions from a the sample of the Millennial generation.

Data was gathered from students from November to December 2019, followed immediately by the phase of analysis and interpretation. At the end of the collection phase, a total of 167 civil engineering students had completed the questionnaires. The descriptive statistics of the respondents are illustrated in a table below.

Table 1: Frequency analysis of the sample

Independent characteristic N = xx	Number	Percentage
Gender		
Male	78	46
Female	89	54
Year of birth		
	1988 - 2000	-
Location of the Faculty		
Zagreb	15	9
Split	67	40
Rijeka	33	20
Osijek	52	31

Source: Authors' calculations

Collected answers show that 89% of the Millennial participants are familiar with the concept of green roof and can name at least one building with a green roof on top. Additionally, research established that 95% of students from the sample of Civil Engineering Faculties students involved in the study stated that they are aware of climate change issues, which topped the list of priorities they were asked to select from predefined options in the questionnaire, followed by sustainable development and long-term financial gain.

Over 80% of the participants believe that they can make a personal, positive contribution on a local level to the reduction of climate risks with approximately half of the participants thinking that they can make a personal, positive impact on local urbanisation challenges. With regard to green infrastucture importance, 61% responded that they consider it to be very important in the immediate, living environment. However, when asked about its importance in the workplace, 31% stated it is very important, which can be interpreted that the benefits of green roofs is not very high on the list of the priorities for Millennials when considering the working environment.

The questionnaire established that the key benefits of the green roofs, according to the existing knowledge of the Millennial participants in the tested sample (in descending order or importance) are: heat insulation – reduction of energy consumption, contribution to biodiversity and energy production. However, when asked to rank the key benefits from a list, according to scientific research papers, the order was as follows: reduction of air pollution, production of energy/food and lastly reduced heating/cooling bills. This shows that while Millenials general knowledge about green roof benefits is limitied to most popular and widely known benefits, when presented with a more extensive list, the Millennial participants indicated that the top priority is a benefit relates to environment and climate change risks.

7. Conclusions

The paper established that there are many, quite versatile benefits of green roofs. Some of them are primarily related to economic and environmental opportunities, whilst others are more related to ecology and climate change mitigation. Generally, the efficiency of allo of the green infrastructure and green roof benefits discussed depends on the willingness of tomorrow's decision makers to implement them in their urban environment.
The loss of biodiversity and endangered ecosystems are issues that are occurring globally as well as locally and therefore the responsibility of Millenials, as a generation but also as individuals, plays an important role.

This paper has presented part of the results of the research carried out on a sample of students studying at all Croatian Civil Engineering Faculties. The study investigated their climate change awareness, green infrastructure knowledge and willingness to include it in their urban environment where possible. Although the rest of the research results, focusing solely on financial aspects of green infrastructure projects as perceived by Millennials, has been presented as a separate paper, this study may be considered as preliminary students' survey analysis, which should be upgraded in future research.

The results of this research have shown that Millennials from the tested sample in Croatia are aware of the environmental issues, including the green roof concept and are willing to consider green roof element in their future urban environment, whilst believing that they can make a personal, positive contribution on a local level to the reduction of climate change risks.

It can be concluded that the current views of young people in Croatia today can give us some confidence to hope that the application of GI and green roofs will make a positive contribution towards mitigation of urbanisation and climate change issues in a near future.

However, the main limitation of the presented study remains the size and profile of the sample. Although conducted on a national sample, among students who are the most familiar with the topic, the results would be more reliable if the sample was not just bigger, but consisted of other Millenials as well, not only civil engineering students. Because of that, as direction of further research, authors recommend including Millenials with different characteristics into the study, too and even conducting a comparative study with Millenials from neigbouring as well as other EU countries.

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PRINCIPLES OF FINANCING OF NON-PROFIT ORGANIZATIONS IN SLOVAK REPUBLIC

ABSTRACT

Non-profit organizations are becoming an important part of national economies. The non-profit sector has also built up a stable position in the Slovak Republic and is made up of non-profit organizations. The aim of these organizations is not to make a profit, but to provide public services. These services are provided in the field of health care, humanitarian aid, in the field of science and research, education, etc. The funding of non-profit organizations is receiving attention. Every non-profit organization needs financial resources to ensure its activities and the topic of financing non-profit organizations is dealt with in our paper. In the article we work with two hypotheses and in the analytical part the segmentation method, comparative and descriptive method was used. In the first part of the analysis, we chose non-profit organizations and foundations operating in the Slovak Republic in terms of legal form. Among the forms of funding sources, we focused on contributions obtained through tax assignation. The segmentation method was used to determine the groups for which we analysed the obtained means. Subsequently, we compared the contributions obtained through tax assignation in the case of non-profit organizations and foundations on the basis of figures. In the second part of the analysis, we dealt with the analysis of the volume of funds drawn from Eurofunds, which are intended for non-profit organizations operating in the Slovak Republic. Descriptive methods were used in this analysis. After evaluating the results, we came to the conclusion that one of the established hypotheses was not confirmed. The result of the article is a comprehensive view of the reader on the issue.

Key words: *non-profit organization; financing of non-profit organization, tax assignation, Eurofunds.*

1. Introduction

Non-profit organizations are specific types of organizations in national economies and play an important role in the global market globally. As reported by McKeever, up to 1.41 million registered non-profit organizations in the US were recorded in 2013 (McKeever, 2015). According to the portal Nonprofitaction.org, The Global Journal estimates that there may be about 10 million registered non-profit organizations worldwide. According to the Charity Aid Foundation, the number of people willing to donate and support non-profit organizations in 2011 was 1.4 billion. It is estimated that the number of donors will increase to 2.5 billion by 2030 (nonprofitaction.org).

MacIndoe and Sullivan view non-profit organizations as an essential part of social security (MacIndoe and Sullivan, 2014). The reason is that many people are not living at a sufficient standard of living to be able to afford to finance services from their income and are turning to help from non-profit organizations. Through their activities, non-profit organizations try to help people in difficult times, but these organizations themselves face the problem of raising funds and often struggle with a lack of funding (Dvorsky et al. 2017). In some countries, the activities of non-profit organizations are particularly highlighted; e.g. in Australia, where non-profit organizations play a very important role in providing education, health and social care services (Lyons, et al., 2007).

The goal of non-profit organizations is to provide public benefit services. From a legal point of view, they are defined as legal entities created on a voluntary basis (Crotty and Ljubownikow, 2020). As the name implies, non-profit organizations do not have the goal of making a profit. profit. However, this does not mean that a non-profit organization cannot make a profit. Conversely, profits can be made, but in this case, profits are not distributed among the members of the organization or employees, but the profits made for the organization and serve to finance its activities and fulfill its mission (Fonadova and Hyanek, 2015). The mission of non-profit organizations is to provide services of general interest that are aimed at the general well-being of society and the people living in it (Zheng, et al., 2019).

In order for any non-profit organization to be successful, the basic premise of ensuring an appropriate method of funding must be met (Kiseleva and Dubrova, 2019). In the issue of financing non-profit organizations, Jiang emphasizes the importance of financial analysis, which is important for their successful operation (Jiang, 2018). Every economic entity must find the most appropriate way to obtain funding to cover its functioning and to secure its activities, which it wishes to develop and pursue (Turrini, et al., 2019).

Non-profit organizations have several forms of funding at their disposal. They can obtain resources from the public sector, where the state supports non-profit organizations, they can also be financially supported by the private sector, individual donors, or the non-profit organization can also obtain money from foreign entities - it can be e.g. through Eurofunds. The methods of financing available to non-profit organizations are different, and they can use several sources of funding at the same time, this principle is referred to as fundraising. In practice, the funding of non-profit organizations is based on the principle of multiple sources (Rajnoha and Lorincova, 2015). If a non-profit organization wants to raise funds through the fundraising method, it has to work out a project in advance in which all those involved in it must cooperate (Olah, et al., 2017).

Commercial enterprises operating on the market for profitability have a less demanding funding system. Businesses manage their own assets, equity or use foreign funds to secure their activities, which may take the form of, for example, loans from banks. With this type of financing, banks very strictly evaluate the rating of potential clients as a basic risk factor (Weissova et al. 2015). Companies belonging to the profit sector monitor their performance through various indicators. Based on this, they are able to assess their economic situation and, in the event of identified shortcomings, they can resolve a specific method of financing (Salaga et al. 2015). Companies are able to use the results of financial analysis more effectively and can thus predict the situation of future periods (Bartosova and Kral, 2017).

On the contrary, the non-profit sector operates on a completely different principle. It consists of organizations that belong to non-profit entities and are specified as legal entities that have a non-state character and provide services of general interest, while their primary goal is not to make a profit. These services are provided under predetermined conditions and apply to all without distinction (Drucker, 2016). There are basically four legal forms of organization:
- associations,
- foundations,
- non-profit organizations (ie organizations providing services of general interest),
- non-investment funds.

2. Methods

A very important issue of the functioning and even the survival of a non-profit organization is its financing.

Regarding the financing of non-profit organizations, we divide the sources of funding based on how the non-profit organization has acquired them. According to the method of acquisition, we differentiate at internal sources, which come from the own activities of a non-profit organization and external sources, which the non-profit organization obtained from another source. What is important in financing a non-profit organization is also the nature of the entity that financially supports the non-profit organization. These may be public funds from which the non-profit organization is financed; in this case it is funded by a state or self-government that supports the activities of this organization, it may also be financed by the private sector - business entities.

Funds can be further broken down according to the origin of funds, either foreign or domestic funds. The form of income through which the non-profit organization received the money is also very important. Based on this breakdown we distinguish gifts, collections, grants, orders, etc.

The following table provides an overview of the sources of funding and the forms of funding that are described in more detail below.

Table 1: Sources and forms of financing non-profit organizations

SOURCES OF FINANCING	FORMS OF FINANCING
funding from public sources	- in the form of state and/or municipal subsidies
	- by concluding contracts and contracts funding
funding from private and individual resources	- in the form of endowment resources
	- accepting 2 % of the income tax paid
	- in the form of dotations from business sector
	- by dotations from individual donors
self-financing in the form of membership fees	- the sale of services
	- the sale of products
	- the use of intangible assets
	- the use of tangible assets
	- appreciation of investnemnts
funding from foreign sources	- throught European Union funds

Source: authors

2.1. Financing from state - public sources

Non-profit organizations can be publicly funded, and there are cases where the state can participate in the financing of a non-profit organization. This form of financing may take the form of direct or indirect support. By direct support we mean funding at various levels of state administration or self-government. It can be support from the state budget or the provision of a subsidy to a non-profit organization. There is also the possibility of direct support through the conclusion of contracts and contracts between the non-profit organization and the public sector.

Another form of funding for non-profit organizations is the indirect form, which may take the form of tax exemptions and hence the State waives the possible income it would otherwise earn.

2.2. Private and individual funding

If public funding is not sufficient for a non-profit organization, funding from non-public sources (including private and individual sources) can be used. In this case, through fundraising, under which we understand by actively seeking funds, aim for eliminate the lack of funds to carry out their activities. Fundraising is a planned and organized activity, the result of which is the acquisition of funds, or material or non-property resources or assistance, which may take the form of e.g. gifts in kind. Fundraising method of obtaining funds is tied to project set up. Such a project must contain the following parts: the goal of the project and the strategy for achieving it must be set, and potential donors and partners must be specified. The project must contain all the necessary information, be clearly specified, understandable and be formulated to motivate people to work. Only then is there a presumption that this project will also be successful.

In this type of funding, non-profit organizations can use subsidies given to them by the private sector or individual donors. This type of financing includes collected contributions in the form of tax assignation, and our analysis and their comparison in the case of non-profit organizations and foundations in the Slovak Republic will be devoted to this contribution.

2.3. Self-financing

The self-financing uses all the resources of the non-profit organization that is available to it. In this case, there are the use of own human, material, financial resources, know-how and others to ensure its activities. A non-profit organization may use self-financing to cover its administrative costs, operating costs or to finance such matters as are of the highest priority to it. Compared to other forms of financing, self-financing is quite a difficult process, as it requires high-level financial management and also the overall management of non-profit organizations must be of a very high standard. If these conditions are met in a non-profit organization, there is a high presumption that its financial stability will be ensured.

2.4. Financing from foreign sources

As far as foreign sources of funding are concerned, non-profit organizations have the possibility to draw funds through Eurofunds. These funds are obtained by non-profit organizations in the form of non-repayable funds, subsidies and are intended to support the areas of regional development, employment, education, etc. Non-profit organizations in the Slovak Republic are currently drawing funds from Eurofunds through the development program for the seven-year period for years 2014-2020 and we will deal with Eurofunds in more detail in the following part of the article.

The aim of the article is the analysis of selected sources of financing in the case of the non-profit sector in the conditions of the Slovak Republic. The analysis is divided into two parts. The hypotheses we worked with are as follows. The first hypothesis is that non-profit organizations are able to raise less than foundations through tax assignation. The second hypothesis is that the longer a non-profit organization or foundation operates in the market, it collects more funds than the shorter one operates in the market. We used comparative and descriptive methods in the analysis.

3. Results

The analysis is divided into two parts. The first part is devoted to the assignation of taxes and the volume of funds collected in the period 2019 and 2018 by selected non-profit organizations and foundations operating in Slovakia through this source of funding.

The second part of the analysis is devoted to Eurofunds, through which Slovak non-profit organizations finance their activities. The aim of the analysis was to compare the ability to raise funds through tax assignation for non-profit organizations and foundations and also to assess which areas of development are most supported by funds from Eurofunds.

3.1. Analysis of tax assignment in conditions of Slovak non-profit sector

From possible sources of financing available to non-profit organizations, we focused on the analysis of tax assignation. We chose non-profit organizations and foundations from the legal forms. We segmented non-profit organizations and foundations according to their time of operation on the market, ie the age of these organizations. In terms of scope, we selected three samples for non-profit organizations and three samples for foundations for each segmentation group. We selected samples according to the criterion of the largest volume of collected contributions in the form of tax assignation for 2019 and 2018, ie the three strongest organizations and foundations in the selection of contributions within the selected segmentation groups. The information comes from the financial statistics of selected organizations. The segmentation groups on the basis of which we will analyse the tax assignation are follows:
1. Age of non-profit organization and foundation 1-5 years
2. Age of non-profit organization and foundation 5 - 10 years
3. Age of non-profit organization and foundation 10 - 15 years
4. Age of non-profit organization and foundation 15 - 20 years
5. Age of non-profit organization and foundation 20 - 25 years.
The following tables provide information on the volume of contributions received through tax assignation at the level of non-profit organizations and at the level of foundations based on the time of operation in the market. We assume that non-profit organizations will be able to raise less funds through tax assignation than foundations.

Table 2: Non-profit organizations and foundations with a market life of 1 - 5 years and the state of funds raised through a source - tax assignment

Non-profit organizations				
Name of Non-profit organization	Assignment of 2% income tax, year 2019	Assignment of 2% income tax, year 2018	Relative Change	Value Change
Elementary school with kindergarten Rudolf Dilong	4 021 €	3 721 €	+ 8,06 %	+ 300 €
Hunting Company Vajnory	3 209 €	3 413 €	- 5,98%	- 204 €
Private Primary School Petrzalka	1 950 €	599 €	+ 225,54 %	+ 1 351 €
Foundations				
Name of Foundation	Assignment of 2% income tax, year 2019	Assignment of 2% income tax, year 2018	Relative Change	Value Change
Radio Express Foundation	76 583 €	11 841 €	+ 546,76 %	+ 64 742 €
X-BIONIC®SPHERE Foundation	64 892 €	48 540 €	+ 33,69 %	+ 16 352 €
Miba Foundation	33 445 €	25 386 €	+ 31,75 %	+ 8 059 €

Source: authors

The first group we analysed were non-profit organizations and foundations with a market life of 1-5 years. Cumulatively, selected non-profit organizations collected the amount of funds

through the tax assignation in 2019 in the amount of € 9,180 and in 2019 the foundations collected € 174,920. In 2018, non-profit organizations collected an amount lower than in 2019, amounting to € 7,733. For 2019, these foundations collected € 85,767. A comparison of these two legal forms provided information that foundations were able to collect 19 times more in 2019 than non-profit organizations.

Table 3: Non-profit organizations and foundations with a market life of 5 - 10 years and the state of funds raised through a source - tax assignment

Non-profit organizations				
Name of Non-profit organization	Assignment of 2% income tax, year 2019	Assignment of 2% income tax, year 2018	Relative Change	Value Change
Hunting Company BUK	13 416 €	27 276 €	- 50,81 %	- 13 860 €
Church Leisure Center	11 621 €	6 169 €	+ 88,38 %	+ 5 452 €
Hunting Organization KALAMARKA	5 085 €	2 078 €	+144,71 %	+ 3 007 €
Foundations				
Name of Foundation	Assignment of 2% income tax, year 2019	Assignment of 2% income tax, year 2018	Relative Change	Value Change
Kia Motors Slovakia Foundation	1 423 798 €	1 506 368 €	- 5,78 %	- 82 570 €
EPH Foundation	1 300 497 €	1 725 191 €	- 24,62 %	- 424 694 €
Adeli Foundation	1 205 344 €	891 656 €	+ 35,18 %	+ 313 688 €

Source: authors

The second group is represented by non-profit organizations and foundations with a market life of 5-10 years. In 2019, non-profit organizations raised € 30,122 for their funding and € 35,523 in 2018. Foundations were able to collect € 3,929,639 in 2019 and in 2018 it was a higher amount, amounting to € 4,123,215. In 2019, foundations were able to raise 130 times more than non-profit organizations.

Table 4: Non-profit organizations and foundations with a market life of 10 - 15 years and the state of funds raised through a source - tax assignment

Non-profit organizations				
Name of Non-profit organization	Assignment of 2% income tax, year 2019	Assignment of 2% income tax, year 2018	Relative Change	Value Change
Elementary School Narnia	8 417 €	8 428 €	- 0,13 %	- 11 €
Private kindergarten Vavilovova	7 978 €	4 349 €	+ 83,44 %	+ 3 629 €
Private elementary art school Humenne	7 478 €	2 923 €	+ 155, 83 %	+ 4 555 €
Foundations				
Name of Foundation	Assignment of 2% income tax, year 2019	Assignment of 2% income tax, year 2018	Relative Change	Value Change
Volkswagen Slovakia Foundation	1 597 497 €	1 195 844 €	+ 33, 59 %	+ 401 653 €
Orange Foundation	662 984 €	489 054 €	+ 35,56 %	+ 173 930 €
Allianz Foundation	496 037 €	367 023 €	+ 35,15 %	+ 129 014 €

Source: authors

The third group analysed consisted of non-profit organizations and foundations that have been operating on the market for 10-15 years. These non-profit organizations accumulated a

volume of funds in 2019 thanks to a tax assignation of € 23,873, and in 2018 it was € 15,700. In the case of non-profit organizations, € 2,756,518 was collected in 2019 and in 2018 it was € 2,051,921. In 2019, foundations collected 115 times more than non-profit organizations.

Table 5: Non-profit organizations and foundations with a market life of 15 - 20 years and the state of funds raised through a source - tax assignment

Non-profit organizations				
Name of Non-profit organization	Assignment of 2% income tax, year 2019	Assignment of 2% income tax, year 2018	Relative Change	Value Change
Billingvale Gymnasium C.S. Lewis	45 873 €	45 383 €	+ 1 ,08 %	+ 490 €
Hunting Company Dolina	19 333 €	9 367 €	+106,39 %	+ 9 966 €
Hunting Company Lieskovec	10 965 €	17 945 €	- 38,90 %	- 6 980 €
Foundations				
Name of Foundation	Assignment of 2% income tax, year 2019	Assignment of 2% income tax, year 2018	Relative Change	Value Change
SPP Foundation	1 143 912 €	1 492 301 €	- 23, 35 %	- 348 389 €
VUB Foundation	1 039 912 €	780 664 €	+ 33,21 %	+ 259 248 €
Slovak Savings Bank Foundation	1 007 047 €	1 107 084 €	- 9,04 %	- 100 037 €

Source: authors

The fourth group is represented by non-profit organizations and foundations that have been operating on the market for 15-20 years. In 2019, non-profit organizations managed to collect € 76,171 through the tax assignation, and in 2018 it was € 72,695. The selected three foundations raised the amount of 3,190,871 through this source of funding in 2019 and the amount of € 3,380,049 in 2018. In 2019, foundations were able to raise 41 times more than non-profit organizations.

Table 6: Non-profit organizations and foundations with a market life of 20 - 25 years and the state of funds raised through a source - tax assignment

| **Non-profit organizations**				
Name of Non-profit organization	Assignment of 2% income tax, year 2019	Assignment of 2% income tax, year 2018	Relative Change	Value Change
Church Primary School of St. Gorazda in Namestovo	6 470 €	7 917 €	- 18,27 %	- 1 447 €
Hunting Association Lukavica	4 218 €	5 526 €	- 23,67 %	- 1308 €
Samaritan Social Services Center for the Elderly	4 195 €	4 004 €	+ 4,77 %	+ 191 €
Foundations				
Name of Foundation	Assignment of 2% income tax, year 2019	Assignment of 2% income tax, year 2018	Relative Change	Value Change
Pontis Foundation	2 661 939 €	2 496 846 €	+ 6,61 %	+ 165 093 €
Pro Futura Foundation	374 134 €	311 324 €	+ 20,18 %	+ 62 810 €
Pro Charitas Foundation	211 955 €	165 036 €	+ 28,43%	+ 46 919 €

Source: authors

The fifth group consists of non-profit organizations and foundations aged 20-25 years and the volume of contributions collected was as follows. Non-profit organizations received € 14,883 in 2019 and € 17,447 in 2018. In 2019, the foundations received € 3,248,028 and in 2018 it was € 2,973,206. In 2019, foundations raised up to 218 times more money than non-profit organizations.

3.2. Financing of non-profit organizations in Slovak Republic from Eurofunds

As for another analysed form of financing, Eurofunds, they belong to the attractive development opportunities in Slovakia. In our country, several programs have been introduced, which are financed from Eurofunds and are intended for financing activities provided by non-profit organizations operating in the non-profit sector of the Slovak Republic and these services are provided throughout the Slovak Republic.

The periods for which Eurofund funds are allocated are seven years. A development program for the period 2014 - 2020 is currently being implemented in Slovakia. The areas of development that are funded by Eurofunds and non-profit organizations participate in their development are: Integrated Regional Operational Program, Human Resources, Environmental Quality, Research and Innovation, Effective Public Administration and Integrated Infrastructure. Information on Eurofunds comes from the statistics of the Ministry of the Interior of the Slovak Republic. The following graphs provide information on the allocation of resources from the Eurofunds, which are intended for individual programs in financial terms and in percentage terms too.

Figure 1: Graphs of Funds for Individual Programs for the development period 2014-2020 in EUR and in %
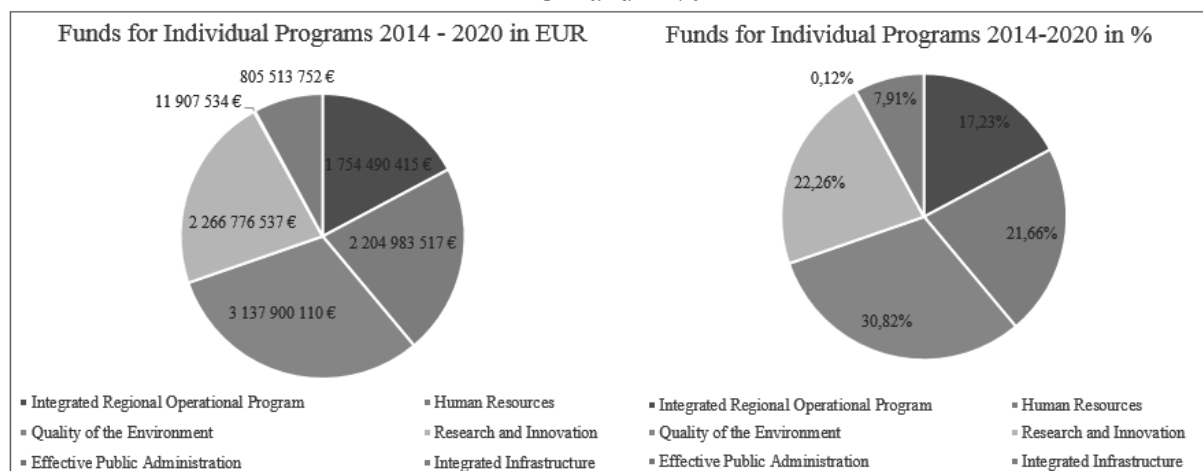
Source: authors

*1. **Integrated Regional Operational Program,*** which aims to contribute to improving the quality of life and ensure the provision of public services, which are aimed at territorial development and economic cohesion of individual regions, cities and municipalities in Slovakia for the period 2014-2020. EUR 1 754 490 415 was allocated to the program.

*2. **Operational Program: Human Resources:*** the aim of this program is to support the areas of employment, workforce development, social inclusion, education and also to provide comprehensive support to Roma communities. The appropriations allocated to this program amount to EUR 2 204 983 517.

*3. **Operational Program: Environmental Quality:*** they are earmarked under this program EUR 3 137 900 110 and focuses on the efficient use of natural resources, increasing energy efficiency and ensuring environmental protection.

4. Operational Program: Research and Innovation: the aim of this operational program is to strengthen science and research, innovation and technological development and for this program was allocated EUR 2 266 776 537

5. Operational Program: Effective Public Administration: the aim is to improve systems and optimized public administration processes, and € 11 907 534 was allocated for this program.

6. Operational Program: Integrated Infrastructure: this program is aimed at the development of the information society and the volume of funds for this program was set at € 805 513 752.

4. Discussion

The article focuses on the analysis of contributions obtained through tax assignation and also of the volume of Eurofunds, which are intended to finance the activities of non-profit organizations in certain areas. Regarding the analysis of tax assignation, we analysed non-profit organizations and foundations according to their age in the market. Our hypothesis was intended as an assumption that non-profit organizations obtain less funds through tax assignation than foundations. The second hypothesis, which we worked with, was that with the time on the market, the volume of funds raised will also increase. Table 7 and Table 8 provide an overview of the summarized volume of contributions of the three strongest organizations and foundations by segmentation groups in 2019.

Table 7: Summary table of the solved issue in year 2019

Segmentation Group	Age of the Organizations	Year 2019	
		∑ Non-profit organization	∑ Foundations
1.	1-5 years	9 180 €	174 920 €
2.	5-10 years	30 122 €	3 929 639 €
3.	10-15 years	23 873 €	2 756 518 €
4.	15-20 years	76 171 €	3 190 871 €
5.	20-25 years	14 883 €	3 248 028 €

Source: authors

Table 8: Summary table of the solved issue in year 2018

Segmentation Group	Age of the Organizations	Year 2018	
		∑ Non-profit organization	∑ Foundations
1.	1-5 years	7 733 €	85 767 €
2.	5-10 years	35 523 €	4 123 215 €
3.	10-15 years	15 700 €	2 051 921 €
4.	15-20 years	72 695 €	3 380 049 €
5.	20-25 years	17 447 €	2 973 206 €

Source: authors

From the above information, it follows that only the first hypothesis was confirmed to us, namely that non-profit organizations raised less funds through tax assignation compared to foundations. This was true for both 2019 and 2018.

As for the second hypothesis, namely that, depending on how long the organization operates in the market, it can raise more funds through tax assignation, this assumption has not been confirmed. The exception was non-profit organizations with a market life of 20-25 years, which collected less than non-profit organizations whose age is 15-20 years. Also, our assumption was not verified at the foundations in 2019 with a market life of 10-15 years. It

follows that even younger organizations in the non-profit sector are able to raise more funds through tax assignation in 1 period compared to older organizations operating in the market. The second hypothesis was not confirmed even in the case of the amounts collected in 2018.

When we look at the state of funds raised by non-profit organizations, we see significant differences in amounts compared to foundations. Foundations have an advantage over non-profit organizations in that they are funded by wealthy entrepreneurs (Wright, et al., 2019). For non-profit organizations, we see a solution in more effective communication with the general public and addressing the public through marketing tools - specifically through communication. As a communication channel, we would also recommend social networks an advertising band that could be published on television. In order for the general public to be acquainted not only with foundations, but also with non-profit organizations, which also need the means to ensure their activities. In our opinion, the reason why non-profit organizations receive less funds than foundations is the enlightenment and dissemination of their mission to the public.

In our opinion, the reason why non-profit organizations receive less funds than foundations, is the weaker awareness and dissemination of their mission for to public. We would recommend streamlining and expanding communication to the public in order to reach the widest possible audience. We also recommend acquaint the widest possible range of people so that they know that they can contribute to the activities of a non-profit organization through 2% of income tax paid. It often happens that these 2% taxes can be provided for a good cause, but people do not know about the programs for which they can contribute, so these funds go to the state, which will use them for their preferred purposes. We also see a possible recommendation for non-profit organizations if these organizations contacted business entities and established cooperation with them, and employers would be able to contact their employees to pay 2% of the tax paid to the organization with which they cooperate. According to Karaaslan, direct contact of non-profit organizations when contacting donors is advantageous because it allows direct communication with a potential donor and thus can be well informed about all the issues he needs to know (Karaaslan, 2017).

In the case of the second analyzed issue, financing of non-profit organizations through Eurofunds, we came to the conclusion that the most supported area of Eurofunds in the scope of non-profit organizations is the area of regional development, which accumulates the largest amount of Eurofunds. In the second place is the area of research and innovation and the smallest amount of funds was set aside for streamlining public administration. Thus, within the development period 2014-2020, Slovakia is mostly focused on the area of regional support and development, and for this section the most funds were provided for drawing from Eurofunds. When financing funds from Eurofunds, we would recommend non-profit organizations to handle funds from Eurofunds as efficiently as possible, so that they can cover the widest possible range of activities and services and be able to improve the quality of services as widely as possible.

5. Conclusions

Non-profit organizations are very important subjects of the national economy. Their activities are aimed at providing services of general interest and assistance in the social, humanitarian, human rights, education, culture, research and development, etc. A very important aspect in the operation of non-profit organizations is the method of financing. Non-profit organizations are not created for the purpose of making a profit, and it is all the more difficult to find funds. These organizations can use several sources of funding in their funding. The state or local government can contribute to the activities of non-profit organizations, they can be financed by private entities too, individual donors and they can also obtain money from foreign

entities. In the article, we focused on the method of financing through the assignation of taxes and Eurofunds as attractive ways to obtain funds for organizations operating in the non-profit sector. In the article we came to the conclusion that the comparison of non-profit organizations and foundations brought a fundamental difference in the volume of contributions collected through the tax assignation and in fact non-profit organizations lag far behind foundations. So, in this case we can say that non-profit organizations have more difficult conditions for their funding than foundations, and a possible solution would be if more public attention was addicted to non-profit organizations.

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ANALYSIS OF TREND DYNAMICS IN RISK ASSESSMENT OF MULTINATIONAL COMPANIES IN THE RENEWABLE ENERGY SECTOR

ABSTRACT

Multinational companies are an important factor in the global economy. Their activities in the field of information technology, trade, and energy have created today's world. On the other hand, multinational companies bring progress, prosperity, technology transfer, improvement of living standard of the local population. Because of their mission, they operate in multiple countries in multiple tax and customs systems, they encounter problems of non-compliance in transport, customs, culture, and religion. Therefore, their business risks are far broader and their management is more complex than in companies operating in one area. Risk analysis is an integral part of the risk management process preceded by risk identification and assessment, which indicates that the research in this paper is proactively focused on finding ways to manage business risk effectively. The starting point of this paper is the hypothesis that, with consistent knowledge about the risks that multinational companies are exposed to in their business operations, it is possible to establish that a systematic risk analysis will enable quality management of business risks to which companies are exposed in international business operations. The aim of this paper is to analyse important features of business operations of multinational companies, investigate types of business risks and risk management framework, and empirically investigate trend dynamics of published risk analyses of multinational companies from the renewable energy sector from the aspect of rating agencies in the observed period. Using statistical correlation methods and trend analysis, the observed phenomena will be analysed by determining their structures, characteristics, and regularities at individual time intervals using calculated indicators. Appropriate statistical software IBM SPSS Statistics 24 and MS Excel will be used for analysis and display.

Key words*: risk assessment, multinational companies, rating agency, renewable energy sources.*

1. Introduction

In a business risk analysis, it is necessary to identify risk attributes, because an event may have several consequences and affect several objectives. The risk analysis should also take into account existing risk management (control) measures, if any, and determine their efficiency and effectiveness. In business terms, risk implies the risk of an increase in costs, including the cost of own risk management. Business risk is the risk of failure to achieve the planned financial result of a company. It is manifested in danger of not realising the expected and desired business activities, and thus, something unforeseen is created, which negatively affects business operations. This can be caused by an unpredictable and unrepeatable event, personnel error, wrong decision, etc. The risks encountered by multinational companies (hereinafter: MNCs) are, in addition to usual business risks in foreign trade operations, such as currency, transport, insurance, credit, even more exposed to the risks of the country of residence, which include political, corrupt, criminal, or war risks. Risk analysis helps to align the objectives of the risk protection programme with business goals and business needs, helps the management to better plan the necessary funds for protection programmes, and to rank risks properly according to the significance and possible consequences. The importance of business risk analysis for MNCs is confirmed by ratings published periodically by rating agencies which have become the most important indicator of desirability or risk of doing business with analysed companies. Their estimates are a kind of a signal for business partners, investors, and shareholders who conclude contracts or refuse to do business accordingly. Once a rating by the rating agency has been obtained, it is valid until the next analysis, so it is interesting to follow historical trends in order to be able to project future trends, which at the same time served in this paper as a subject of research and analysis of data collected. Primary data sources of in this paper were extracted from scientific and professional literature, while the analysis and interpretations of publicly available data of renowned rating agencies as well as the published financial statements of the selected MNC from the EU energy sector were used as secondary sources.

2. Basic features of business operations of multinational companies (MNCs)

International or multinational companies – MNCs – are companies that operate in two or more national economies. They have been established through the history of economic relations for many reasons, of political, economic, tax, social, or other nature. What makes MNCs recognisable is that their management headquarters are located in a tax system other than their production part. Globalisation and modern information and communication technologies have simplified business forms and it is virtually difficult to find a company that bases its operations solely on a single country-limited space. Multinational companies are large business organisations with relatively extensive activities in a number of countries, with coordinated business strategies. This opinion on the concept of multinational companies may not meet the strict criteria for a term definition, but it reflects the notion of a multinational company in this paper. Multinational companies have a significant impact on the international mobility of production factors. With their operations in different countries, they transfer production factors between the countries in which they establish their branches. MNCs choose their locations, resources, tax systems, etc., bring new technologies that they combine with cheaper other resources at these locations, thus primarily achieving their own interests, indirectly assisting the development of these countries. Assisting the development of other countries or exploiting raw materials and cheap labour are dilemmas for political debates, but there is currently no other way to attract foreign capital or foreign direct investment without the participation of MNCs. In addition, there is a very significant transfer of technologies that underdeveloped or developing countries could hardly reach using their own resources. Of course, MNCs have their

reasons for investing in the capital of another country, but in the end, it all comes down to increasing profits.

2.1. Investment motives of multinational companies

The reasons why multinational companies decide to engage in direct investment do not differ from their interest in international trade (expansion of the market by selling abroad and acquisition of foreign resources, raw materials, facilities, and knowledge). It is possible to single out four basic motives that drive investors (Babić, Pufnik, & Stručka, 2001, 3).

➢ The first motive of the investors is based on the theory of optimisation of the portfolio of a multinational company according to which the investment is motivated by the wish of the owner of a particular portfolio to maximise its value, i.e., the expected yield of the portfolio with as little risk as possible.

➢ The second motive for entering a foreign direct investment is based on market imperfections, connecting the subsidiary generated by such investment with the parent company.

➢ The third motive is based on the theory of industrial organisation according to which, in theory, expected revenue from a branch generated by foreign direct investment is higher than the yield of a domestic company to which it, for example, assigns a licence – because of proximity of the market, lower costs (of labour and/or capital), because of the possible conquest of the largest part of the market, and other more favourable conditions on the local market. Business-related costs in a foreign and insufficiently familiar environment.

➢ The fourth motive for foreign direct investment is based on the rationalisation of capital costs. Multinational companies establish branches abroad because their debt (promissory notes) is a cheaper way of financing than ownership (shares); therefore they prefer to invest (because they must have a certain debt/liability ratio), and even abroad in the form of direct investment, rather than to pay dividends to shareholders. If such direct investment requires additional financing, they may borrow it in the receiving country and thus reduce the exchange rate risk.

From the standpoint of a multinational company, direct investment may serve many useful strategic goals. Therefore, direct investment penetrates foreign markets (either the recipient country or a group of countries – the jumping over tariff argument) that are easier to reach through the recipient country (Babić, Pufnik, & Stručka, 2001, 5). This is a market-oriented foreign direct investment. In this way it is possible to facilitate own exports, which is another motive of investors – export-oriented direct investment.

3. Risk management framework

In general, the term risk implies the possibility of detriment or loss as a consequence of a particular behaviour or event. This applies to unfavourable circumstances in which consequences may occur, but do not have to. Such risks may occur:
1. if the opportunities[1] are not used,
2. if errors have been made in the choice of strategy, decision-making or work; or
3. if the threats have materialised.

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[1]In business systems, the terms: strengths, weaknesses, opportunities, threats (dangers) are common in environmental analyses (SWOT analysis, situational, and scenario analysis) and form an integral part of creating strategy, planning, and decision making.

This includes the danger of malicious acts by employees of companies and/or third parties. According to Koontz and Weihrich (1998, 75), "threats are external factors and situations that can completely impede the achievement of the company's objectives." In extremely simplified terms, business risk can be defined as a risk of failure to realise the planned financial result of an enterprise. However, since the business system of large MNCs is extremely complex and sensitive to numerous dangers arising from the internal and external environment, it is narrowed down to a situation that can be caused by an unpredictable and unrepeatable event. Risk management is an organised and systematic decision-making process in which the risk is effectively identified, analysed, planned, monitored, controlled, and documented with the aim of reducing its value. This process includes constant assessment of circumstances and observation of changes and monitoring, and mitigation of all related risks. Managing business risks means continuously undertaking all activities leading to a reduction in the probability of occurrence of a business risk (Tchankova, 2002, 290). The main steps of the business risk management process are:

1) Risk identification means identification of a hazard, its possible consequence and the likelihood that it will be realised. To determine the size and probability of hazard occurrence is a fundamental precondition for risk management. The success of risk management also depends on the accuracy of hazard data collected and the consequences that may arise from the realisation of the threat or hazard. It is also necessary to establish limits of risk values, as well as the range of valuations within those limits. These values differ on a case-by-case basis, but in all cases, they usually range from acceptable to unacceptable values. A specificity is the "least acceptable measure" or "as low as reasonably practicable – ALARP", which relates to a risk that is neither negligible, nor so high that it cannot be tolerated, and for which further investment of risk mitigation funds is not justified (Bukša, 2010, 62). The dilemma that arises in determining the level of ALARP risk is related to the funds or cost[2] necessary to reduce risk value. Costs are an economic rather than security category, and from an economic point of view it is necessary to find an acceptable amount of costs to be invested in order to reduce the value of risks.

2) Risk analysis can be performed using qualitative and quantitative methods. A qualitative method of analysis is possible only after the recognition and consideration of all factors affecting variables. The qualitative method of risk analysis is an analysis carried out on the basis of qualitative values obtained by observation and evaluation. The quantitative method is based on the measured or presumed values that are statistically processed, and the obtained results represent input values when creating the risk assessment model. For quantitative methods, the risk value is determined by the real value, i.e., number and it is easier to compare risks.

3) Risk reduction plan – After the hazard has been successfully recognized and identified and its risk determined and analysed, the following step is developing a plan for its reduction. The basis for management is decision-making. To this end, it is necessary to draw up a decision-making plan. Management functions are realised through decision-making process (Sikavica, 1999, 61). When developing a risk reduction plan, it is important to determine which risk factors should be affected. The most effective solution would be to influence the factors that have the strongest impact on the increase in risk value. These factors and their values (qualitative and/or quantitative) and their impact are derived from risk analysis. It is also important to decide when and where to influence them. Under ideal conditions, the reduction of risk values in one part of

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[2]As a rule, invested funds can always be expressed in monetary units. Funds needed for risk management are most often not planned funds and as such are considered unplanned expenditures.

the system should not increase the value of risks in another part of the system[3] It would unrealistic to expect complete risk elimination, but an acceptable level of risk should be established from all aspects (safety, economic, etc.).

4) Risk monitoring begins after the identification, analysis, and planning have been completed and after what had been planned was carried out. Risk monitoring implies supervision of all measurable values relevant to the value of the risk. By processing the data obtained, it is possible to obtain a report on the changes in risk values.

5) Risk control. Risk should be monitored continuously and systematically during risk management. Therefore, it is important to chronologically record all information on events related to the risk and its factors and determine the degree of known hazards until the threat of an event disappears. Furthermore, supervision must also include monitoring of all other measures that are directly and indirectly linked to the risk itself and assessing the value of risks after all the measures had been taken.

Risk control is the final part of risk management and the last step in the risk management process and it is necessary to have a comprehensive approach to all applicable indicators and factors that affect the risk value directly or indirectly, within or outside the system. A common point of view is that risk monitoring and control are similar, but control is not only carried out in an area where risk management is introduced, but also monitors the impact of risk reduction on surrounding factors that are not directly related to the risk itself. Business risk management is the methodology by which the company (Merkaš, 2018, 98): "evaluates, manages, studies, finances, and monitors risks from all sources in order to increase the organisation's short-term and long-term values to its stakeholders". Risk management includes the following seven elements (Živko, Marijanović, & Grbavac, 2015, 403):

1) risk assessment;
2) recognition and identification of risks;
3) measurement, ranking or assessment of risks;
4) response to significant risks;
    ➢ tolerance,
    ➢ treatment,
    ➢ transfer,
    ➢ removal,
5) control of the risk source;
6) planning;
7) reporting and risk performance monitoring;
8) revision of the risk management framework.

Risk management process begins with identification of risks.

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[3]Although this is the basic objective of reducing the value of risks in a system, this usually cannot be achieved. As a rule, the mean risk value in a system is observed, and by reducing that value it is considered that the actions planned for the purpose of reducing the risk value have been successfully implemented.

Table 1: Possible Business Risks

FINANCIAL RISKS	Accounting standards Interest rates Exchange rate Availability of sources of funds Loans
INFRASTRUCTURE RISK	Communication Transport links Supply channels Natural disasters Crime
MARKET RISKS	Economic environment Technological development Competition Demand Regulation requirements
IMAGE/REPUTATION RISK	Public perception Behaviour of the competition Requirements of CSR regulator

Source: Živko, Marijanović, and Grbavac: Rizici u poslovanju – Upravljanje pristupom financija i
računovodstva, 2015, p. 404

It is important to understand that risks do not act in isolation; they are in a mutually strong or weak interaction. It is also necessary to draw up scales to measure the risks by the size of the consequence they cause and the frequency of their occurrence.

Table 2: Risk Measurement

	CONSEQUENCE - DAMAGE	**FREQUENCY F**		**EVENT PROBABILITY**
Assessment	**Description**	**Assessment**	**Description**	**Description**
5	Extreme	5	Often	Almost certainly
4	Significant	4	Possible	Possible
3	Moderate	3	Probable	Probable
2	Low	2	Unlikely	Unlikely
1	Negligible	1	Rarely	Rarely

Source: Živko, Marijanović, and Grbavac, Rizici u poslovanju – Upravljanje pristupom financija i
računovodstva, 2015, p. 404-405

The consequence or damage resulting from the fulfilment of risks can always be expressed in monetary units, usually in the domicile currency, while the frequency (F) and probability (v) can be expressed numerically in relation to the time unit. It is formed empirically on a case-by-case basis and is most often the number of repetitions per year [F/year]. There are several ways to manage risks. The generally accepted standard for this area is ISO/IEC 31000. The risk management process according to ISO/IEC 31000 is presented in the following scheme.

Scheme 1: Risk Management Process According to ISO/IEC 31000
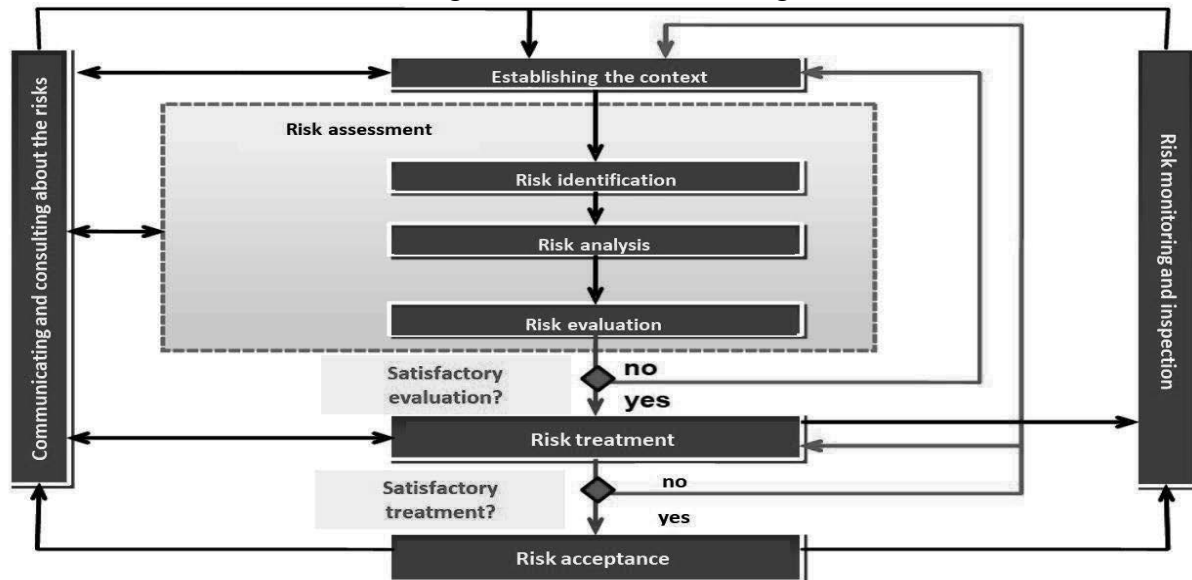
Risk management, according to Krakar and Tomić Rotim (2015, 4) "comes down to finding a reasonable relationship between danger, possible consequences and measures that minimise risks to an acceptable level".

3.1. Business risk analysis in MNCs from the aspect of rating agencies

International credit rating agencies regularly (twice a year) evaluate the level of risk of government debt, by which also country risks. In order to identify the risks, each credit rating agency has developed its own methodology for assessing economic and public finance and identified possible new risks (Simon & Simon-Andras, 2019, 337). Credit rating agencies also evaluate companies by internal experts, but with a final qualitative assessment of their management acting as decision makers. These ratings affect the credit rating of countries and their companies. Credit rating agencies' ratings have a double effect (Brauers & Lepkova, 2019, 1260): credit rating of companies and other organisations on the one hand and countries on the other hand. In the European Union, the prevailing opinion is that agency ratings are too American-oriented, at least from European perspective. Consequently, a number of efforts have been made in Europe to form some new European agencies, but these efforts have not been fruitful yet (Brauers & Lepkova, 2019, 1262). Credit rating is an indicator of the probability of non-payment. The probability of non-payment is a continuous variable bounded between 0 and 1, representing the expected relative frequency of non-payment. However, the timing of the non-payment does not automatically mean that the investor has completely lost the invested money. Taking into account priority in the collection or collateral position of a particular financial instrument, with a likelihood of non-payment, another relevant indicator that may affect credit rating is recovery rate. Therefore, according to Lovrinović (2015, 687), "Credit rating is not the measure of absolute, but relative credit risk."

4. Methodology of analysis of MNCs from the renewable energy sector – Siemens Gamesa Renewable Energy Model

A hypothetical example of possible business risks of a selected company from the energy sector is presented in this part of the paper. Risks from the perspective of an interested business entity are analysed. Graphic analyses of the prediction of trends within certain limits and regression

analysis of variance, i.e., standardised beta coefficient are relevant for the subject of this paper. Discussions on climate change have intensified in international discussions following the rise in global warming and melting of icebergs. This also led to a renewed interest in the use of renewable energy sources to reduce damage caused by the exploitation of non-renewable sources. According to the latest data, some countries rely entirely or mostly on renewable energy sources for their regular consumption. Countries like Paraguay and Iceland are 100% renewable energy, while Norway is 98.5%, and Costa Rica 99%. Regions such as Schleswig-Holstein and Mecklenburg-Vorpommern in Germany are 100% on renewable energy. Similarly, Quebec and British Columbia in Canada are also fully, 100% on renewable energy sources. These sources usually come in the form of solar, wind, hydropower or geothermal energy. Currently 25% of the planet's energy comes from renewable sources. However, there are predictions by the International Energy Agency that say 40% of the Earth's total energy would come from renewable sources by 2040. Thanks to its strong potential, many energy companies have entered the market. These companies can be estimated by their capacity in terms of how many megawatts of energy they produce, as well as the attitudes they get. Therefore, the example of Siemens Gamesa Renewable Energy company is given below.

4.1. Siemens Gamesa Renewable Energy

Siemens Gamesa is an energy company known for its initiatives in the renewable energy sector. Dow Jones Sustainability Index – DJSI, that follows the social, economic, and environmental performance of all major companies engaged in sustainability world-wide, ranks Siemens Gamesa among the best in the world. Siemens Gamesa is a pioneer in exploiting wind energy. They were among the first companies to launch wind farms and own some of the world's largest wind farms.

Figure 1: Movement of Siemens Gamesa Stocks on the Madrid Stock Exchange 2010–2020

Source: Markets business Insider, https://markets.businessinsider.com/stocks/siemens_gamesa-Stoc [accessed 25/02/2020]

The above figure shows fluctuations in stock prices on the Madrid Stock Exchange, i.e., the depression reached in 2012 as a result of the global financial crisis and growth until 2017, followed by a decline and stagnation. All three leading international credit rating agencies have been monitoring the operations of Siemens Gamesa Renewable Energy since the very beginning of Gamesa's operation on the renewable energy market, from initial enthusiasm and high demand for investments in alternative energy sources to expected stagnation. The following table presents the current rating status of Siemens Gamesa Renewable Energy.

Table 3: Rating Agencies' Ratings for 2019

AGENCY	LONG-TERM	PROSPECTS	DATE OF ASSESSMENT
Standard & Poor's	BBB -	Positive	May 6, 2019
Moody's	Baa3	Stable	May 6, 2019
Fitch	BBB	Stable	May 22, 2019

Source: Siemens Gamesa, https://www.siemensgamesa.com/investors-and-Shareholders/financial-information/ratings [accessed on 15/02/2020]

The link between the reached prices of stock values on the stock exchange and ratings is presented in the following table.

Table 4: History of Changes in Stock Value and Ratings of Siemens Gamesa Renewable Energy (4Q2014-4 Q2019)

QUARTER	AVERAGE QUARTER VALUE OF THE SHARE	RATING
4 Q 14	7,5	BB
1 Q 15	8	BB
2 Q 15	9	BB
3 Q 15	10	BB
4 Q 15	9	BB
1 Q 16	8	BB
2 Q 16	11	BB
3 Q 16	12	BB +
4 Q 16	13	BB +
1 Q 17	14	BB +
2 Q 17	17	BB +
3 Q 17	10	BB +
4 Q 17	11	BBB -
1 Q 18	10	BBB -
2 Q 18	9	BBB -
3 Q 18	10	BBB -
4 Q 18	9,5	BBB -
1 Q 19	13	BBB -
1 Q 19	13	BBB -
2 Q 19	15	BBB -
3 Q 19	12	BBB -
4 Q 19	15	BBB -

* S&P agency publishes ratings periodically per year
Source: Authors' calculation according to: Markets Business Insider,
https://markets.businessinsider.com/stocks/siemens_gamesa-Stoc [accessed 15/02/2020]

If stock trading is an indicator of the company's strength on the market, then it is concluded that Siemens Gamesa is a successful company on the renewable energy market, which is confirmed by agency ratings. By analysing the dynamics of changes in the average stock value and their rating in the observed time series (expressed in quarters), it is possible to draw conclusions about their causal relationship as well as to predict the continuation of movement for the forthcoming period of time.

The simple regression model with two variables (dependent and independent) in the observed time describes the relationship between phenomena for which each unit increase in the value of one variable corresponds to the unit increase in the value of another variable. Regression analysis of data from Table 4 is presented in the scatter chart and the table of variance analysis below.

Chart 1: Siemens Gamesa Renewable Energy (4Q2014–4 Q2019)
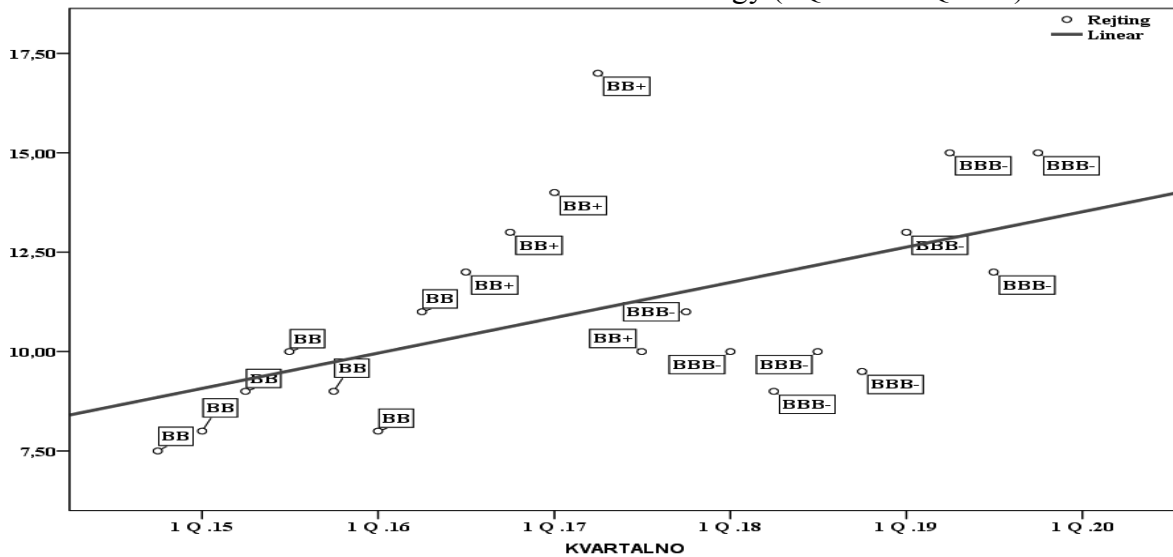
Source: Authors' processing in SPSS Statistics according to data from Table 4

Chart 1 shows equal scatter in all quadrants. If the relationship between the variables were functional, all observed points would lie on the same line of regression. The following indicators are extracted from regression analysis: R2 and standardised β

➢ R2 is an indicator of representativeness of regression, which reaches values from 0 (no connection) to 1 (full connection).

➢ The standardised regression coefficient β shows how much the value of the dependent variable Y changes on average for the unit change in the value of the independent variable X.

Analysis of variance (ANOVA) is a technique for using the differences between the average of samples in reaching conclusions about the existence (or no existence) of differences between population averages. ANOVA is a unique procedure capable of disaggregating and estimating variability caused by different factors – sources.

The preconditions for ANOVA are the following:

• observations are normally distributed within each population,

• variances of populations are the same – homogenous (homogeneity of variance or homoscedasticity); and

• observations are independent.

The purpose of the variance analysis is to compare a larger number of average values at once. The results of the conducted analysis of variances are presented in the following table.

Table 5: Analysis of Variances of Siemens Gamesa Renewable Energy (4Q2014-4 Q2019)

	Sum of squares	df	R^2	β	F	Sig.	F limit
Regression	37,991	1	0.281	0.530	7.417	0.013	4.38
Residual	97,316	19					

Source: Authors' processing in IBM SPSS Statistics according to data from Table 4

The ANOVA table indicates that the calculated F is smaller than the F limit by 0.5% of statistical significance, indicating that the value of shares does not affect credit agencies' ratings. R^2 indicates poor correlation of variables and the standardized coefficient β indicates

poor correlation of changes. Based on historical data on stock exchange value trends, it is possible to create a prognostic model within acceptable control limits using the SPSS software. The longer the prediction time, the wider the limits.

Figure 2: Siemens Gamesa Renewable Energy Stock Value Prognostic Model
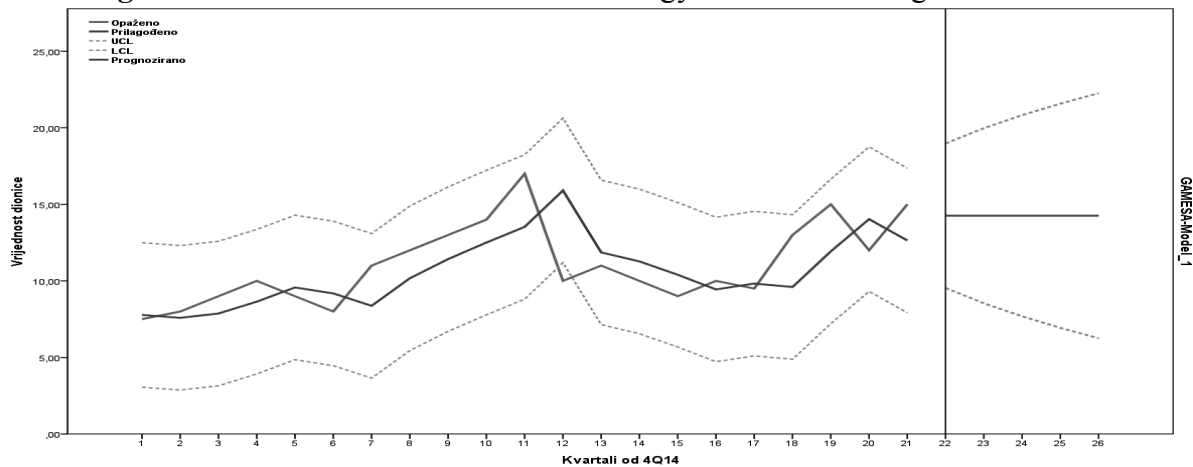
Source: Authors' processing in IBM SPSS Statistics according to data from Table 4

The prognostic model indicates the probability that in the next 4 quarters the stock value will remain stable, which is also the long-term rating agency forecast. The analysis conducted does not indicate a possible increase in the business risk of Siemens Gamesa Renewable Energy.

5. Conclusion

The analysis of the selected company, which primarily operates in the energy sector of the European continent, showed that it is a respectable company in terms of business performance. The aim of the analysis was also to confirm the causality between the value of stocks the company obtains on stock exchanges and the ratings it receives from renowned rating agencies, which was ultimately confirmed. Its reliability and market response to such ratings can be proven on the analysed example of a company from the energy sector operating in the European Union. The correlation between stock trading trends and the issued rating in the five-year period was monitored. A high degree of correlation has been confirmed, which is expected since it is a well-known company with a secure and stable market. Rating agencies are welcome experts without whom the modern business world would be hard to imagine. Their assessments and ratings of business capability of this model are an initial indicator to investors and credit institutions, in terms of what they can expect from the business in a foreseeable period. Rating agencies rate as "long-term stable" company operations relying on renewable energy source, but this is not followed by stock prices on stock markets. This only confirms that business risks of the selected MNCs are mostly influenced by environmental factors whose intensity and direction are difficult to predict. In conclusion, this research should also be viewed in light of the new green policy of the European Union, which wants to be a climate independent continent by 2050, noting that investors and creditors, as well as rating agencies, are more interested in business indicators than climate change. Whether, and when these entities will view companies' operations in the light of renewable energy sources, is the subject of some other research.

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THE IMPORTANCE OF THE COMMUNICATION FOR THE EFFICIENT COURT MANAGEMENT

ABSTRACT

The Court president manages the court's work and ensures that the court's tasks are carried out lawfully, properly, and on time. President is responsible for the efficiency and effectiveness of work and, as the first among (equals) judges, takes measures to improve the organization of court work. The Court president is responsible for achieving the mission, vision, and value of the court. Encourage and maintain the trust and cohesion of judges and court staff. He/she allows all employees to know, understand, and act following the agreed rules and values of communication. Communication in court means the exchange of opinions and ideas of judges and employees, whether they are in an equal, superior, or subordinate relationship with the interlocutor. It is not only necessary that the information conveyed by communication within the court is clear to motivate employees successfully, but also how the information is transmitted. The primary functions of communication in court are controlling, motivating, emotionally expressing, and informing.
Communication in court is important for the efficiency of court work. Communication with the public is important for the perception of trust in the judiciary. The paper analyzes business communication in the court, which takes place in three directions: top-down(downward communication), bottom-up (upward communication), horizontal (horizontal communication), and diagonal communication. .This paper aims to demonstrate that good communication in court reflects efficiency in the work of judges and court staff. Internal communication in court increases motivation and commitment to work, improves interpersonal relationships and understanding between judges and judges. Motivates judges to get involved in the organization of work, keeps judges up-to-date in resolving cases, and helps them understand the need for change. The paper uses appropriate methods for analysis and synthesis, inductive and deductive methods, descriptive method, survey method, and statistical method.

Key words*: court president, communication, motivation, efficiency, organization.*

1. Introduction

In countries of high legal efficiency, judicial management has become a standard in the functioning of the courts. Communication within the court, and in particular between the Court President and the court administration, judges, court advisers, and employees, is essential to achieve efficiency. It is especially important in larger courts with many permanent offices

located away from the court seat. Good communication with each employee contributes to motivation not only in solving tasks but also in creating a positive climate and good interpersonal relationships. In this way, better results achieved, and thus the efficiency of case resolution becomes better, and the overall results of the judicial reform higher.

Introducing better communication with citizens influence better efficiency of the judiciary. The openness of the courts to the public would contribute to a better image of the judiciary and enable citizens to have a clearer understanding of judicial processes. It is essential to show the result of the court's work in the public because court decisions have specific messages that affect society. Opening to the public should be one of the priorities of the judiciary.
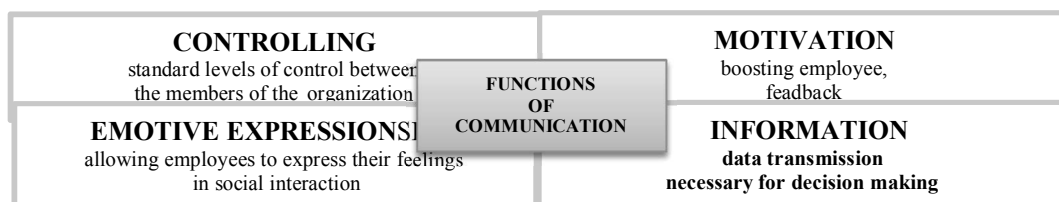
2. Business communication

Communication is the process of sharing information essential to the modern management.It is a vital part of all management functions – planning, organizing, human resources, leading, and controlling. Lack of communication, excessive networking, globalization, the development of highly sophisticated technology, the Internet, and turbulent economic environment are factors that decide the quality of management.Communication reflects the quantity and quality of the entire business process.

Business communication means the exchange of opinions and ideas of employees, regardless of whether they are in a subordinate or superior relationship with the interlocutor. In a business environment, all information and messages most frequently exchanged among participants by conversation, discussion, public speaking, or submission reports.[1]
Business communication can be external and internal. While external business communication refers to employee communication with external parties, internal business communication includes communication between employees.[2]
The basic functions of internal communication are controlling, motivating, emotionally expressing, and informing.[3] Controlling refers to the standard level of control over employee performance, motivation to stimulate employees and feedback, emotional expression to enable the expression of employees' feelings in social interaction, and information to the transfer of data needed for decision making. All internal communication functions are equally important. For internal communication to be successful, it must be timely, concise, and understandable.

Picture 1: The basic functions of communication

CONTROLLING standard levels of control between the members of the organization	MOTIVATION boosting employee, feedback
EMOTIVE EXPRESSIONS allowing employees to express their feelings in social interaction	INFORMATION data transmission necessary for decision making

FUNCTIONS OF COMMUNICATION

Source: Robbins, P. S., Judge, A. T.: Organizacijsko ponašanje, 12. Izdanje Mato .o.o., Zagreb, 2009., pp. 368-369.

Successful internal communication is important, among other things, to motivate employees. Working motivation refers to the motivation of employees to do their job as well as possible and successful. Successful internal communication has a positive effect on the motivation of

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[1] Lamza-Maronić, M., Glavaš, J.: Poslovno komuniciranje, Stu- dio HS Internet, Ekonomski fakultet u Osijeku, Osijek, 2008., pp 22.
[2] Weihrich, H., Koontz, H. (1994): Menedžment, Zagreb, Mate, pp.*539*
[3] Fox, R. (2006): Poslovna komunikacija,Pučko otvoreno učilište, Zageb, Hrvatska sveučilišna naklada pp.44

employees in the company because internal communication conveys information relevant to court work and provides employees with feedback on how they performed their work tasks. It is crucial that the information transmitted through internal communication is clear, but also how that information is transmitted. If employees successfully engage in internal communication, if they understand their tasks correctly and in a meaningful way, the results will be good.

3. Communication at the Courts

Transparency and openness towards citizens and the public generally mean that judicial authorities timely and fully inform the public on its activities, primarily on the website, where it is necessary to publish a range of information and documents, and also through a spokesperson for direct communication with media.

The Court president, as the head of the court administration, take care of the proper relations, and treatment of judges and other court employees towards parties, state bodies, and other legal entities, and also takes care of good relationships between court employees.[4]

The availability of information on court work creates an image of transparency and publicity of work. Citizens can find out when a hearing held on in their case and how often the hearing schedule is visible on the court's website board. The decisions of the judge in a particular case is visible on the e-bulletin board. There is information on the court's website of the schedule of hearings, decisions of the court fees, etc.

The Court spokesperson issues press releases on the work of the court following the Courts Act, the Right of Access to Information Act, and the Rules of Court.[5]

Business communication in court realizes within the court and towards the public, i.e., citizens, and media. In this sense, we also distinguish the so-called—internal and external communication.

Internal communication is communication within the court with judges and employees. Internal business communication can be conduct in three directions: top-down (downward communication), bottom-down (upward communication), and horizontal (horizontal communication).

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[4] The Law on Courts, Official Gazette No.22/15, 66/18
[5] Law on Courts, Official Gazette . No.22/15, 66/18

Picture 2: Schematic presentation of the internal Court organization

| Department for monitoring of judicial practice | **PRESIDENT OF THE COURT** | Spokeperson of the Court |
| | | Office of the President |

| **Punitive department** | **Litigation department** | **Landregistry department** |

| Secretariat of the Court | Department of Financial Management | Department for technical support | Court registry |

| Statistics Service E-Files Service International Affairs Court trainees | Depatment of Accounting | Technical Maintenance Service Court archive | Reception office Litigation office Penalty Office |

Source: made by the author according to http://sudovi.pravosudje.hr/ospu/index.php?linkID=12

Business Court communication realizes within the court and towards the public, i.e., citizens, and media. In this sense, we also distinguish the so-called—internal and external communication. Internal communication is communication within the court with judges and employees. Internal business communication can be conduct in three directions: vertical communication (top-down downward communication, bottom-down upward communication), horizontal (horizontal communication), and diagonal communication.[6]

4. Internal Court communication

Internal communication is the exchange of information within the court. Messages can exchange through personal contact, telephone, fax, memo, e-mail, intranet (private internal court information network-a web site accessible only by employees), etc.

Internal communication assists judges and other employees in their work, especially in resolving particular legal issues and case law, how to organize a department, and identifying and responding quickly to potential problems. It can realize in both formal and informal forms.

The main goal of communication from the organization is its successful functioning.

Therefore, formal communication in court realized in several directions - vertical, horizontal, and diagonal. Vertical communication has two flows: top-down and bottom-up and exists in hierarchically structured systems.

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[6] Robbins, P. S., Judge, A. T.: Organizacijsko ponašanje, 12. izdanje, Mate d.o.o., Zagreb, 2009.,pp. 368

Picture 3: Scheme of the direction of communication
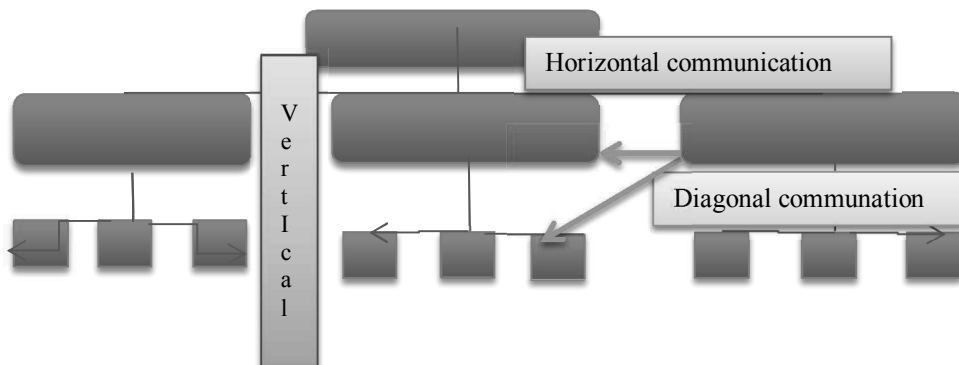
4.1. Vertical communication

Vertical communication has two flows: top-down and bottom-up and exists in hierarchically structured systems. It based on the procedure of subordination (superiority and subordination). The downward flow of communication is stronger than the ascending, horizontal, and diagonal direction of communication. It starts from the top managers, flows through the lower levels of management to the executives, who are at the bottom of the hierarchy ladder. The main goal of this communication is to guide and manage individuals at lower hierarchical structures.[7]

The contents of this type of business communication generally include job descriptions like orders, instructions, instructions, and orientations related to specific employee obligations and methodology for solving tasks and problems;

Basic business policy principles provide insight into how specific tasks fit into the overall goals of the judicial organization, evaluating the business results of employees and the entire court.

Downward communication in many courts is not adequately achieved. Lower-level employees often complain that they "lack the right information" and "that no one ever tells them anything.". Lack of necessary information causes unnecessary stress for employees.[8]

The causes of poor downward communication in court may be:
- Lack of clear objectives. It often happens that court management pays very little attention to adequately and fully presenting the necessary business information to employees.
- No controlling techniques of existing communication. The court administration rarely checks the effectiveness of its communication with subordinate associates, which prevents them from finding out whether their messages have been properly received, understood, appropriate, and received on time.

The most effective techniques for communication are those directed directly to the persons most affected by the message - these are meetings and organizational publications targeted at specific groups.

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[7] Lamza-Maronić, M., Glavaš, J., idem., pp. 18.
[8] Fox, R.: Poslovna komunikacija, 2. dopunjeno izdanje, Hrvatska Sveučilišna naklada/Pučko otvoreno učilište, Zagreb, 2006.

4.2. Horizontal communication

Unlike vertical communication, where parties are engaged in different positions, horizontal communication refers to communication between individuals who are at the same hierarchical level. Communication is, in principle, more relaxed and more friendly. It is the most common communication flow in an organization. Among other things, this type of communication enables the coordination and integration of departments and sectors performing relatively independent tasks.

Horizontal communication mechanisms in the organization are usually not prescribed and left to the initiative of each participant. It usually takes place in the following situations: information exchange during breaks, telephone conversations, meetings of sectors and working groups, team-building seminars.[9]

The basic purpose of establishing horizontal communication is to provide information, solve problems, coordinate activities, ensure understanding, and minimizes destructive conflicts.

Horizontal communication allows overcoming the problems of (un) timeliness of information generated by communication through a relatively "long chain of communications" and the problems of the inaccuracy of communication arising from deviations in communication when communicating through a third party and more persons. Therefore, horizontal face-to-face communication has a special role to play in facilitating court communication.

The benefits of such communication are such as to avoid administrative and operational waste of time or potential misinformation; Effective horizontal communication also prevents tasks from being completed because people mistakenly assume that those tasks will be solved somewhere else. Still, this type of communication is time-consuming, and it is one of its most significant disadvantages.

4.3. Diagonal communication

 Diagonal communication occurs when multiple levels of organizational structure are linked through a project assignment.

Diagonal communication is the least used communication flow in an organization. However, it is still significant in all those situations where it cannot be effectively communicated through other flows (in terms of the least amount of time and energy), as well as in situations where the vertical (descending and ascending) channels. For example, if a production manager wants to conduct a cost structure analysis, he or she can request some of the required data directly from the sales department, rather than going the usual route through the marketing sector.[10]

Through group work with spokespersons, we have gained insight into how court spokespersons, as 'people on the ground,' perceive important elements in communication and public relations, as well as see how they can be helped and what they believe can be improved in practice. The conclusion is that experienced spokespersons have a good understanding of the essential challenges and advancements that are needed.

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[9] Buble, M.: Menadžerske vještine, Sinergija, Zagreb, 2010. pp 190
[10] Žugaj, M., Šehanović, J., Cingula, M.: Organizacija, TIVA Tiskara Varaždin, Varaždin, 2004., pp. 485.

5. External communication

The openness of the courts to the public contributes to a better image of the judiciary and provides citizens with a clearer understanding of judicial processes. It requires good cooperation between the courts and the media. The judges most often avoided the press, and they seem to be a caste group, which does not seem to realize how much their judgments, as specific messages, affect the society of which they are ultimately part. For these reasons, openness to the public should be one of the priorities of the judiciary.

Table 1: The objectives of external communications

ACCESSIBILITY	EFFICIENCY	INTEGRITY	TRANSPARENCY
Spokesperson	Annual report	Code of Ethics	e- case
Register of the data	Monthly report		e- court file

Source: made by the author

5.1. Spokesperson of the Court

The court has a court spokesperson. A court spokesperson is a judge, court advisor, or a person designated by the court president on an annual schedule. President of County court may appoint a judge of that court as a spokesperson for the County Court and all municipal courts in the area of its jurisdiction.[11]

The spokesperson may have a deputy. The court spokesperson provides information on the work of the court following the Courts Act, the Rules of Court, and the Right of Access to Information Act.

Indicators of openness of the work of public courts are, first of all, accessibility, efficiency, integrity, and transparency.

Regarding the principle of accessibility, courts publish information approved under the Access to Information Request and the register of the data for which they have approved. Courts have a spokesperson or public relations department and an electronic database of court rulings and others.

5.2. Webpage of the Court

Public efficiency can be seen from reports published by courts on their web pages. In the area of integrity, the Code of Ethics for Judges published on court websites.
In the field of transparency, the web site has an annual work plan and an organizational plan of the court. Each court has an online bulletin board on its website.

Court electronic bulletin board is a free and public service that enables the inspection of electronic bulletin boards of courts and other competent authorities in the Republic of Croatia.

The central search engine enables the search of published decisions and other documents of the municipal, county, commercial, and administrative courts in the Republic of Croatia, the Financial Agencies in enforcement proceedings, and public notaries.

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[11]Law on Courts, Official Gazette . No.22/15, 66/18

All advertisements by the competent authorities shall be published without delay and shall be automatically downloaded upon expiry.[12]

The Ministry of Justice, as the highest judicial administration body, provides the technical preconditions for the information system described. All recorded information is within the jurisdiction of the courts in which the proceedings are conducted. The competent courts should be consulted in case of objections and questions regarding the information presented.

In case of technical issues related to the functioning of the e-bulletin board, a person can send an inquiry to the e-mail address e-oglasna@pravosudje.hr. For questions regarding the published content, the person contacts the courts that published the advertisement https: //sudovi.pravosudje .com /.

5.3. Integrated Case Management System - eSpis

eSpis is an information system that completely replaces the existing court registers. It thus virtually enables better management of court proceedings, faster data exchange between courts, and transparency in the operation of the judiciary.
The system eSpis application for Case Management, which includes municipal, commercial and county courts, the High Commercial Court of the Republic of Croatian and the Croatian Supreme Court.

The function of the eSpis system is the automatic allocation of files to judges, as well as an automated algorithm that assigns files based on an appeal against a first instance decision to county courts in Croatia.[13]

5.4. E-Predmet (E-case)

E-case (E-Predmet) is a public and free electronic service through which parties in court proceedings and their proxies, as well as all other interested persons, are provided with public access to basic data related to court cases. By searching the court and business case number, users can be informed about the progress and the dynamics of resolving the case in the ordinary and appeal proceedings.
This service introduced as part of the IPA 2009 program, which introduced the Integrated Court Case Monitoring System (e-Spis) in the Croatian courts. Case information retrieved from the e-Spis system in which cases, where managed by municipal, commercial, and county courts and, are updated once a day and provide users with almost instant insight into the status of the case.[14]

6. Empirical research

An empirical study of the functioning of courts in the Republic of Croatia, conducted in March 2018 for doctoral dissertation of the author of this paper, focused on exploring the personal views and reflections of court officials and court advisers on-court functioning.[15]

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[12] Law on Courts, Official Gazette . No.22/15, 66/18
[13] https://e-oglasna.pravosudje.hr/
[14] http://e-predmet.pravosudje.hr/?q=o
[15] Škare Ožbolt: Doctoral disretation:Management and judiciary in the function of the efficient work at the courts 2018, Anex II. pp 124

Respondents comprised of three primary groups:
1) by type of court (municipal, county, commercial, misdemeanor, and administrative court),
2) by their duties (court administration, judge or court advisor), and
3) by experience or work experience (up to 5 years, 6 to 10 years, 11 to 20 years, and 21 to 30 years of working service).

Questions on internal communications:
1. Working meetings held on the subject of the organization of the work of the court;
2. The analysis is done, and feedback give to the employee;
3. Information regularly provided to court users and the community;
4. Feedback use to improve performance;
5. The sessions of the judicial sections shall be held regularly:
6. There is regular communication between the court president and court staff

Table 2: There is regular communication between the court president and court staff– according to the type of court

Contention		Evaluation				
		1	**2**	**3**	**4**	**5**
Type of court	**Municipal**	0,7%	6,8%	36,5%	45,3%	10,1%
	Midesmeanor	0,0%	2,5%	5,0%	42,5%	50,0%
	Commercial	0,0%	2,6%	31,3%	46,1%	18,3%
	Administrative	0,0%	2,6%	25,6%	56,4%	15,4%
	County	0,0%	11,7%	33,0%	46,6%	6,8%

Source: Questionnaire data, compiled by SPSS Statistics 22

From the attached analysis, we could see that the thesis rejected most employees in county courts (11.7%). The majority of those who are indeterminate is from the municipal courts (36.5%). More than half of administrative court employees (56.4%) generally agree with the statement made, while exactly half of the employees of misdemeanor courts fully agree with the statement.

Table 3: Respondents' share in evaluating the claim There is regular communication between the court presidents and court staff - concerning the duty they perform in court

Claim		Respondents' share in evaluation				
		1	**2**	**3**	**4**	**5**
Duty	**Adviser**	0,9%	7,5%	40,2%	42,1%	8,4%
	Judge	0,0%	6,2%	30,1%	47,1%	15,6%
	Court management	0,0%	2,1%	12,8%	51,1%	31,9%

Source: SPSS Statistics calculation, 22. based on survey data

The analysis of the answers shows that court advisors are significant in assigning grades 1 (0.9%), 2 (7.5%) in a smaller proportion, but very present in rating 3 (40.2%). In contrast, members of the judiciary actively support this claim, with ratings 4 (51.1%) and 5 (31.9%).

Questions on external communications:
1. The court has a website
2. The court website is very informative for the parties
3. The court has a spokesperson who regularly provides information
4. User requests promptly answered
5. The results of the reform are regularly published
6. The court hours tailored to the parties
7. The results of the reform are regularly published

8.Information on court proceedings is available the public

Table 4: Average ratings of the elements of the external communication function of the courts

CONTENTION	N	Spain	Σ	ı	Σ	υ
1. The court has a website	446	4	1.688	3,785	0,9730	0,947
2. The court website is very informative for the parties	445	4	1.458	3,276	1,1498	1,322
3. The court has a spokesperson who regularly provides information	447	4	1.464	3,275	1,1297	1,276
4. User requests are promptly answered	445	4	1.554	3,492	0,9435	0,890
5. The results of the reform are regularly published	447	4	1.589	3,555	0,9593	0,920
6 The court hours are tailored to the parties	448	4	1.609	3,592	0,8852	0,784
7. The results of the reform are regularly published	447	4	1.614	3,611	0,8862	0,785
8. Information on court proceedings is available the public	448	4	1.619	3,614	0,8826	0,779
TOTAL AVERAGE ASSESSMENT	**3,525**					

Source: Questionnaire data, compiled by SPSS Statistics 22

Most undecided respondents are from municipal courts (36.5%). More than half of administrative court employees (56.4%) generally agree with the statement made, while exactly half of the employees of misdemeanor courts fully concur with the statement.

6. Conclusion

Communication in the courts involves the exchange of opinions and ideas of the court president with judges and other employees, whether they are in a subordinate or superior relationship with the interlocutor.Internal communication is successful only if it is timely, concise, and understandable. Excellent internal communication increases the efficiency of the court (judges and court advisors as well as all employees). Low-quality communication, on the other hand, creates a sense of isolation and dissatisfaction. That also means that insufficient information sharing leads to insecurity and increases alienation.Successful internal communication has a positive effect on employee motivation in the court, as internal communication conveys information relevant to the functioning of the court and provides employees with feedback on how they performed their work tasks. It is crucial that the information transmitted through internal communication is clear, but also how that information is transmitted.The results of the research showed that the judges were mostly satisfied with internal communication. At the same time, the court advisors generally did not express themselves in either positive or negative terms, which is the basis for improving internal communication.Significant steps have been taken to bring the work of the courts closer to citizens and the public. An integrated way of managing files has been introduced. Each party cannot monitor the progress of its case and the speed of the courts.

The most important conclusions are:
• the need for proactive communication
• the need for court decisions to write in a language that is more understandable to the public
• the need for contextual writing/placement of information, especially on court websites
• importance of internal communication - court employees, are one of the key sources influencing the image of the court
• social networks as a factor influencing the perception of the court in public
• the importance of regular meetings of the spokespersons

Courts today are more open to providing information than before. However, there is still room for improvement, especially about updating information on web pages as well as more frequent communication of spokespersons with the courts.

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THE CONTRIBUTION OF PUBLIC LIBRARIES TO THE ECONOMIC DEVELOPMENT

ABSTRACT

The aim of the paper is to highlight the contribution of public libraries to the economic development of local communities. Public libraries are commonly considered as cultural institutions and are generally not perceived as one of the potential drivers of local economy development but as an expense. However, more recently, the impact of public policies that focused on inclusiveness, lifelong learning and workforce personal development, has prompted the emergence of analyses in which researchers have found that public libraries are making significant economic gains for the local community. These analyzes, assessed and stated the financial effects of public library operations on the local economy relative to the resources invested in their work. Libraries create this financial benefit for their community by enabling users to access new ICT resources, general and specialized business information, training to empower personal competencies and encourage entrepreneurship, enabling the involvement of all community members in community education and other social processes, empowerment programs for marginalized groups and their facilitation, inclusion in the labor market, enabling workers to search for jobs as well as business opportunities for entrepreneurs, etc. The paper describes case studies from literature of public libraries and their economic contribution, as well as an example of the Ivan Goran Kovačić City Library in Karlovac, Croatia, and its department Business Library with related services available to the local community in order to strengthen the economic development of Karlovac. Results will identify the contributions and impact of public libraries to the local economy development.

Key words: *Public libraries, Local economy development, Local community.*

1. Introduction

The aim of the paper is to highlight the contribution of public libraries to the economic development of local communities. Public libraries are commonly considered as cultural institutions and are generally not perceived as one of the potential drivers of local economy

development but as an expense. However, more recently, the impact of public policies that focused on inclusiveness, lifelong learning and workforce personal development, has prompted the emergence of analyses in which researchers have found that public libraries are making significant economic gains for the local community. These analyses assessed and stated the financial effects of public library operations on the local economy relative to the resources invested in their work.

The paper describes case studies from literature of three large public libraries in Calgary, London and Brooklyn New York and their economic contribution, as well as an example of the Ivan Goran Kovačić City Library in Karlovac, Croatia, and its department Business Library, with related services available to the local community in order to strengthen the economic development of Karlovac. Results will identify the contributions and impact of public libraries to the local economy development.

2. Challenges of assessing the economic contribution of public libraries

The ubiquitous tendency to reduce budgetary resources for many public functions, which are often available to citizens free of charge, has put large public libraries in a thankless position. On the one hand, as the costs of acquiring and maintaining resources increase, their budgets generally decrease or stagnate. On the other hand, they are growing in number of users as well as the amount of content and services they offer to their community. At the same time, libraries are competing with other public institutions to receive public funds in a situation where, because of poor public perception, they are finding it harder to get the funding they need instead of museums and galleries. There is a widespread notion in the public that museums and galleries, due to the purpose of holding exhibitions and other events, are more profitable to the community than libraries, which are viewed as not much more than consumers of public money.

In their efforts to persuasively defend their own position as useful public institutions, libraries publicize not only information about the importance of reading and other services they provide, but also arguments about their economic contribution to the community. In doing so, they show that the money invested in them is returned to the community, sometimes even multiplied, proving the contibution of their public activities even from a purely economic point of view. In this paper we address precisely this aspect of evaluating the public performance of libraries.

Regarding such analyzes, it is difficult to define simple and comparable financial estimates that would be valid for all libraries or other public institutions. In literature, an example of such an analysis was made in 2006 by two similar universities in Chicago, USA. Loyola University Chicago estimated its economic contribution in one year at $ 1.42 billion, while Northwestern University, which is similar in size and only a few miles away, estimated its impact at $ 145 million (Indiana Business Research Center, 2007, p. 7). It seems unlikely that both of these estimates are quite realistic. Therefore, it is necessary to consider the issues in methodology when calculating the economic benefit of libraries to the community.

Thus, it is crucial for the library to identify and quantify the benefits for the community that can be expressed financially, but also to identify those social benefits for which market prices cannot be determined. For example, it would be good for them to ask for the opinions and perceptions of competent experts who can assess the value of such an impact on the community or on workforce development in the local labor market. Also, such experts can help in assessing the usefulness of community library work.

It is important to understand that even though it is relatively easy to measure the cost of library services, it is much more difficult to determine the financial benefit of these services. The reason is that many library services do not have a market price to determine their value. In such cases, the value should be determined according to the closest or most similar service that has market value. Furthermore, there are many cultural and social benefits of operating libraries that go beyond the usual cost-benefit analyses. For example, social networking,

community value building, or even the value of literacy are hard to value in terms of money. These social benefits have an positive effect on improving the quality of life of individual library users, but can also have an positive impact on the economic development of the community. The well-known notion of social capital comes into play here, since it is defined as the connection between people that serves as a social glue (Putnam, 2000). Economists finds such connections productive as well as the financial capital because they enable the community to achieve goals that benefit the entire community.

The development of social capital is ussually supported by public libraries through the following activities:

- Information resources for everyday use by individuals, for recreation and to support formal and informal education and lifelong learning
- Access to government and other electronically-delivered information from sources outside the library
- Information, referral services and facilities that contribute to community development
- Programs for children, adults and organizations
- Places for social interaction
- Equitable access to services and resources for all members of the community
- Literacy programs
- Space for cultural events
- Information technology training
- Research and information seeking skills (Indiana Business Research Center, 2007, p. 8)

When assessing the economic impact of a library, it should be also considered the fact that a large part of the library's costs, as well as the salaries of its employees, are returned to and circulated in the community. It brings economic benefits to individuals and businesses in the community, as well as its overall economic development. These services could include:

- Information services and support to businesses
- Assistance in finding jobs
- Opportunities for developing skills, with consequent increases in productivity
- Introduction of new technology to the community
- Increased attractiveness of the community to business because of its cultural and educational assets
- Free library materials for patrons free up personal discretionary income that may be spent at local businesses
- Reducing the cost of doing business for small, local companies because libraries can serve as the lowest-cost channel for accessing market information (libraries are usually subscribed to databases and online information services which are useful to businesses, but also may be too expensive for many firms to subscribe individually). (Indiana Business Research Center, 2007, p. 8)

Below, we provide some concise case studies to highlight the extent and types of economic contribution that public libraries make to their local communities.

3. Case studies

The cases described here are intended to show actions that large public libraries take in different environments to help individuals and, through them, the local community in which they operate and also to show how they evaluate the economic effects of their activities. In this section, the emphasis in the examination of the first two cases will be on the economic indicators, and in the other cases, on services in the less measurable area of social capital, which all together should give a full picture of the economic contribution of public libraries to the development of their local communities.

Examples are the Calgary Public Library (CPL) operating in a city of 1.3 million people in Canada, the London Public Library (LPL) operating in the highly developed capital of the

United Kingdom with a population of 8.8 million people, the Brooklyn Public Library (BPL) which operates in the largest and most famous city in the US with 8.6 million inhabitants but primarily serves 2.6 million Brooklyn residents as part of New York, and the Public Library Ivan Goran Kovačić operating in Croatia in the city of Karlovac with 56,000 inhabitants. Although libraries and their local communities differ, these cases will show both their differences and similarities, which will complement the picture of the economic contribution of libraries to local communities.

3.1. Economic impact of Calgary Public Library

The Calgary Public Library report on economic contribution shows that this library provides the key prerequisites for a city to be truly successful, which refers to the opportunity for learning, new experiences and the challenge for all citizens. The report points to the fact that the Library has greatly contributed to the economic progress of the city and that the investments in that Library were profitable, that is, as Mayor of Calgary Naheed Nenshi stated, „it's a simple equation: investment in our public library is an investment in the economic and social prosperity of our city" (Calgary Public Library and BERK, 2014).

The CPL economic contribution was measured through its primary contributions to society in providing literacy (even from early literacy from birth to five); education for citizens of Calgary at all levels and at all ages; lifelong learning; providing access to quality information, which is a cornerstone of democracy, and supporting the civic involvement of individuals and groups. Valuation Methodology. The range of values for direct services is determined by multiplying the number of their uses by a low and a high market rate (the going rate for the service on the open market). Market rates were established by obtaining quotes for comparable goods and services. When services were not marketable and no market value was available for the correct service, a discount rate was applied,, resulting in the need to use a reasonable proxy for the value of the service.

A preliminary usage data for each quantifiable benefit was collected from the Library to establish a baseline monetary value for the direct Library services which are quantifiable. Then, these uses were assigned a market value, to acquire a comparable good on the open market. For services for which there no market-rate was available, a proxy was used to make a potential estimation. The product of these values was assigned (which sometimes was modified by a discount rate) that represents the total annual benefits provided by the Library for that service. Calculations based on this methodology resulted in the total measurable value of CPL services in 2013 being between $144.5 and $311.9 million (Table 1). A Return on Investment for every dollar community invested in the CPL amounted between $2.66 and $5.73 in direct benefits, with a midpoint ROI of $4.20 (Table 2).

Table 1: Summary of estimated annual value of quantifiable benefits provided by the CPL, 2013

Item Type	Total Value (Low) ($)	Total Value (High) ($)
Circulation		
Books	36,287,000	69,782,000
Teen Books	2,763,000	5,738,000
Media	18,055,000	48,147,000
Teen Media	51,000	136,000
Children's Media	6,322,000	15,687,000
Magazines	1,705,000	3,183,000

Item Type	Total Value (Low) ($)	Total Value (High) ($)
Teen Magazines	41,000	76,000
Children's Magazines	66,000	123,000
eBooks and eAudiobooks	5,319,000	8,865,000
eMagazines	66,000	147,000
Ephemera	16,000	41,000
eResources		-
eBooks, eAudiobooks, and eMagazines	8,000	11,000
Databases	7,769,000	15,058,000
Programs		-
All Programs	5,530,000	9,066,000
Reference		-
In-Library Use of Materials	2,649,000	5,297,000
Reference Assistance	938,000	2,344,000
Computer and Wifi		-
Computer Use	2,150,000	4,299,000
Wifi Sessions	1,636,000	3,272,000
Meeting Space		-
Meeting Rooms	274,000	548,000
Use of Library Space	17,172,000	45,792,000
Civic Involvement		-
Staff Civic Involvement	37,000	74,000
Arts & Culture		-
Museum and Cultural Exhibit Pass	130,000	130,000
Special Programs		-
Career Coaching	11,000	1,125,000
Strategic Networking	1,000	50,000
Writer in Residence One-on-On Sessions	12,000	24,000
Senior's Van Day	16,000	31,000
Homebound Reader Service	38,000	96,000
LIR: Residential Visits	23,000	45,000
LIR: Deposits Delivered	408,000	1,020,000
ResearchPlus	1,000	1,000

Learning Advantage	92,000	154,000
Direct Benefits	134,935,000	290,982,000
Flood Impacts Adjustment	9,559,000	20,868,000
Total Benefits	**144,494,000**	**311,850,000**

Source: Calgary Public Library and BERK (2016).

Table 2: Return on investment calculation, CPL, 2013

	Low ($)	Midpoint ($)	High ($)
Total Benefits	144,494,000	228,173,000	311,850,000
Total Expenses	54,384,000	54,384,000	54,384,000
Return on Investment (ROI)	**2.66**	**4.20**	**5.73**

Source: Calgary Public Library and BERK (2016).

3.2. Economic impact of London Public Library

For the purpose of calculating the economic contribution of the London Public Library a model of Toronto Public Library (Martin Prosperity Institute, 2013) was used, since this model enables to determine in concrete terms the market value of the Library core services. The Study on economic impact of LPL (2015) on the City of London included only very conservative values and only those services that could be reasonably measured.

The Study identified and analyzed three key components of which total economic impact was created: i) direct tangible benefits; ii) direct spending; and iii) indirect tangible benefits. Direct tangible benefits include collection use; programs; reference and database services; technology access; and meeting and study space use. A conservative economic value of total direct tangible benefits amounted to more than $75 million (Table 3).

A mid-point tangible benefit of the use of LPL's collection amounted $54,877,404 (that accounted for about half of the total economic impact). In 2014, 201,178 users attended LPL programs designed for children, teens and adults. On bases of the marketplace costs review, the average costs for private literacy tutoring for a child amounted $40.00, while costs for programs such as computer training geared to adults costs amounted about $20.00. Based on these data, the total economic contribution of LPL amounted $6,721,780.

Table 3: Total direct tangible benefits of LPL, 2014

Category	Low ($)	Midpoint ($)	High ($)
Collection Use	18,292,468	54,877,404	91,462,339
Programs	6,721,780	6,721,780	6,721,780
Reference & Database Services	10,558,935	10,558,935	10,558,935
Technology Access	2,602,480	2,602,480	2,602,480
Meeting & Study Room	138,142	414,426	690,710
Total	**8,313,805**	**75,175,025**	**112,036,244**

Source: London Public Library (2015)

Direct LPL spending include funds allocated to the LPL from the City of London, which have been spent on operations, capital improvements, employment, and collection materials, and

which in 2014 amounted $18,780,000. In order to calculate a more realistic economic impact on the City of London, in the economic benefit calculation were included only those direct expenses that were spent in the community.

Capital spending are expenditures for facilities and technology as key Library infrastructure. Since the capital costs vary from year to year, the average expenditures incurred during the period from 2009 to 2014 were included to calculate this expense. Spending for employees includes wages and benefits paid to permanent full time, part-time and casual employees.

In addition to funds from the City, LPL also receives other sources of revenue that include operating revenue that accrues from fines, miscellaneous fees, photocopier charges, rental revenue from meeting rooms, business revenue from space rented to tenants, and a provincial grant. In the case that the Library does not have these additional sources of revenue, the investments of the City would be much higher.

Indirect tangible benefits refer to the result of the multiplier effects on direct spending. For example, costs for repairs or renovations or wages paid to staff which are re-spent in the community creating additional benefits. In the case of LPL indirect tangible benefits accrued from operations spending; capital spending; employment spending; page work experience; and collection material spending (Table 4). LPL applied a conservative 0.4 multiplier to each direct expense, added it to the direct expense and calculated a mid-value to estimate a dollar amount attributable to the re-spending

Table 4: Total indirect tangible benefits of LPL, 2014

	Category	Multiplier 0.4	Mid-Value	Multiplier 1.0
Operations Spending	$ Spent (Direct Spending)	813,662	1,423,908	2,034,155
Capital Spending	$ Average Annual	184,099	322,174	460,248
Employment Spending	$ Annual Salary & Benefit Cost	5,709,751	9,992,064	14,274,377
Work Experience: Pages	$ Value	15,944	27,903	39,861
Collection Material Spending	$ Spent in City of London	-	-	-
Total	**$**	**6,723,456**	**11,766,049**	**16,808,641**

Source: London Public Library (2015)

Finally, the total economic impact was calculated by adding direct tangible benefits, direct spending and indirect tangible benefits (Figure 1), which, using the mid-range, resulted with conservative impact of $102,244,552 in 2014 (Table 5).

Figure 1: Total economic impact of LPL, 2014
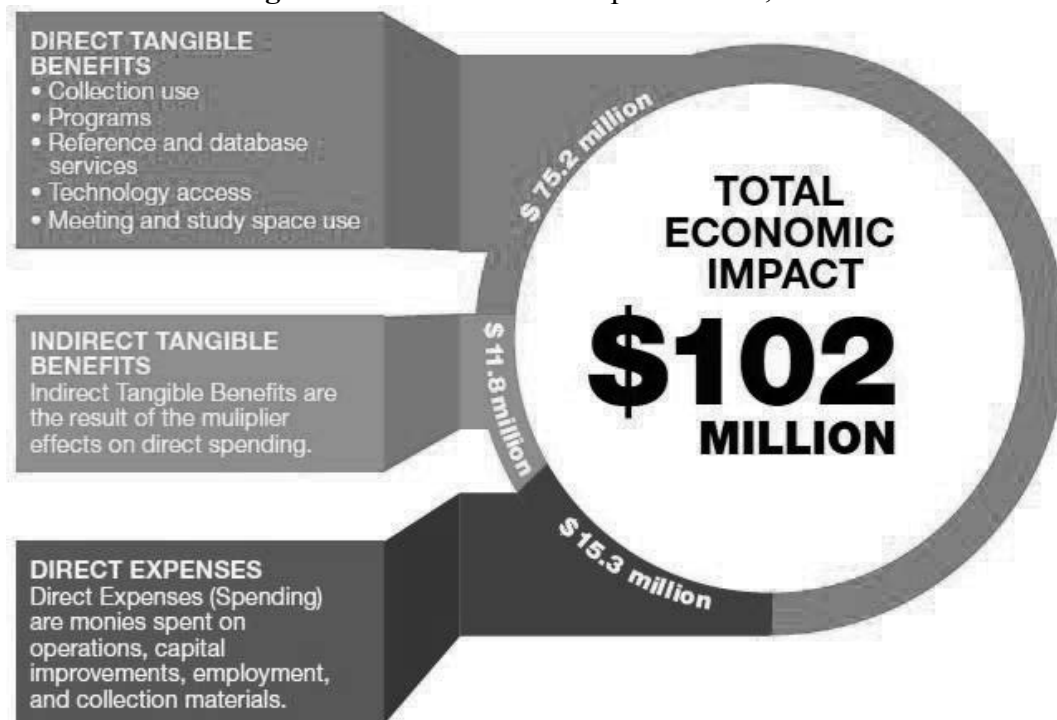
Source: London Public Library (2015)

Table 5: Total economic impact of LPL, 2014

	Low ($)	Mid-Range ($)	High ($)
Direct Tangible Benefits	38,312,804	75,175,024	112,036,244
Indirect Tangible Benefits	6,723,456	11,766,049	16,808,641
Direct Expenses (Spending in City of London)	15,303,479	15,303,479	15,303,479
Total Economic Benefit	**60,340,739**	**102,244,552**	**144,148,364**

Source: London Public Library (2015)

The study found that the Library contributes significantly to the economic strength of the city. For every dollar invested in the Library, citizens received $6.68 in value. On average, each working hour generated $1,657 in direct benefits, while its average cost amounted $475. Finally, the ROI to the City of London was calculated as midpoint in the range of 234% - 670%, and amounted 452%, but it is believed that the LPL's economic impact is even greater than that one this study reveals since economic contributions, which are very important to the health and success of the community such as those impacting literacy, education, employment, small business, retail business, social and mental health, are known, but more challenging to measure.

3.3. Business and career services as a part of Brooklyn Public Library

The approval of establishing the Brooklyn Public Library system dates back to the 19th century by the Act of Legislature of the State of New York in 1892; the Library itself was established in 1896. It experienced a real boom in the early 20th century thanks to a donation from Andrew Carnegie, a wealthy Scotish-American industrialist and a great benefactor of his time. Today, the Brooklyn Public Library (BPL) is one of the three independent public library systems in New York City; the other two are the New York Public Library and the Queens Public Library. BLP has 59 branches and is one of New York's most important

cultural institutions with nearly 700,000 active cardholders. As a leader in promoting literacy, lifelong learning and working with vulnerable groups of people, in 2019 BLP offered over 72,000 free programs, with millions in attendance. An example of a business library, extremely important for the local community, is the Business & Career Center operating at a central library. To its users, it offers one-on-one assistance in job search or help in making a career change, financial counseling, assistance in business planning and investing, as well as starting their own business. Their PowerUP! project is especially well known.

With an annual unemployment rate of 4.1% in the City of New York-data from 2018 (Department of Labor, 2020) residents of Brooklyn borough rely heavily on library services on the way to achieving their business and financial goals. The Business & Career Center offers free workshops and consultations to assist users in the job search process; one-on-one resume help, education and career advice, interviewing preparation, LinkedIn profile tips, how to use library services, etc. Resume and career help are provided at several branch locations. When we talk about one-on-one help, it is crucial to mention SCORE Business Mentoring; users can book an appointment with a mentor from organization SCORE-Service Corps of Retired Executives who are providing insights and knowledge to small business owners and entrepreneurs wishing to start a business. This team of volunteers has been operating as a source of free mentoring and consulting in the fields of economics and entrepreneurship for over 50 years. They call themselves "the nation's largest network of volunteer, expert business mentors, with more than 10,000 volunteers in 300 chapters. As a resource partner of the U.S. Small Business Administration (SBA), SCORE has helped more than 10 million entrepreneurs through mentoring, workshops and educational resources since 1964" (Investopedia, 2020). As a part of such mentoring program, users of BLP can receive free legal and financial advice. Small business owners gain knowledge on how to improve or preserve their businesses and thus stimulate the economic development of the local community. As a part of the program for small business and entrepreneurship, users can get advice on business plans and presentation, how to research your competitors, industry and your target customer, on starting a childcare business or resources for fashion entrepreneurs.

At the Business & Career Center users can get financial counseling by meeting with a financial coach from the Financial Coaching Corps. The Community Service Society launched the program in 2007 in order to address the need for financial education in impoverished urban areas, where lack of conventional banking services encourages use of sub-prime lenders, check-cashing systems, and other high-risk practices (Community Service Society, 2020).

By using free financial expert advisory services at the Bussines Center, users learn how to review their credit report, deal with debt collection, successfully manage their home budget and savings, how to open a bank account, manage student loan and how to explore public benefits. Also, financial experts help with tips on savings, investing and retirement plans. During tax season experts from organizations such as AARP and the Food Bank are helping in filing user´s taxes. There are workshops for people who need help choosing a college, workshops for financial aid users; free legal clinics from the Neighborhood Entrepreneur Law Project (NELP) and the Small Business Development Center (SBDC) are offered every other month. Successful women entrepreneurs share their expertise and answer your business questions as part of the WE Connect Mentors series from WE NYC (Women Entrepreneurs NYC), an initiative based out of the New York City Department of Small Business Services that is dedicated to helping women start and grow their businesses. The New York City Department of Small Business Services offers free online business courses on the following topics: how to run your own business, marketing and sales, management, and reaching your potential.

In addition to organizing programs, workshops and consultations, business librarians work on subject guides, databases, they prepare a monthly newsletter in the field of economics and entrepreneurship, services such as chat with a librarian and "Book a librarian". Book

recommendations provided by librarians are interesting and cover titles in the areas such as career choice, small business, personal finance and real estate.

3.3.1. PowerUP!

The most important project of BLP business library is PowerUP! Competition. Launched in 2003, this project has since educated 8,750 individuals, helped participants to develop 1159 business plans and awarded seed money to 141 entrepreneurs. More than half of these have gone into business. In total, the competition has infused Brooklyn's economy with $450,000 in seed capital (Brooklyn Public Library, 2020). Individuals that want to participate in this competition must be over 18 years of age or older, live in Brooklyn and plan to start a business in Brooklyn. Participants must attend an orientation, get a Brooklyn Public Library Card, see a business advisor, and attend a minimum of 3 PowerUP! classes on following topics: creating business plans, marketing, financial projections, and doing market research. The financial projections class is mandatory (Brooklyn Public Library, 2020). The project also involves the local community; business advisers are coming from organizations operating in the Brooklyn area. Winners receive cash awards as seed capital to start a business in Brooklyn; 20,000 dollars for first place, 10,000 dollars for second place, 5,000 dollars for third place, and 1,000 dollars for five merit winners are awarded. Also, one of the merit winners is chosen by the audience to receive an additional 1,000 dollars. Among 2019 participants, 27% are immigrants/foreign born, 67% are women, and 80% have never owned a business (Brooklyn Public Library, 2020). PowerUP! project has enabled successfull stories of more than 80 companies in different fields; food and drink, health and wellness, arts and crafts, media and fashion, education, and cultural diversity.

Successful examples of business ventures in this praiseworthy project that not only help small businesses development and realization of business ideas, but also contribute to positive image of Brooklyn's economic situation, are Bogota Latin Bistro Restaurant, featuring Latin food and beverages and the Greenlight Bookstore, a bookstore that encourages and supports local economy development and focuses its work on keeping taxpayer money in the local community.

Farid and George then attended the Brooklyn Business Library's entrepreneurial fair and learned about the library's inaugural business-plan competition, PowerUP! Citigroup Foundation sponsored the contest for Brooklyn-based entrepreneurs who needed start-up capital. Entrants would attend classes on creating a business plan, budgeting, and marketing and then submit their own business plan.

In late 2003, George and Farid, who spent hundreds of hours at the library scouring reference databases and learning all they could about the restaurant business, took home PowerUP!'s first ever top prize: $10,000 in cash and $10,000 in business-related services. The competition's top prize was definitely not enough to open a fine restaurant in New York City; however, winning the competition from amongst a field of 125 applicants certified the vision the partners had for their restaurant. "The value was so much more than the prize money," said Farid. "It validated our plan and empowered us psychologically." It also gave the pair extra credibility to present to bankers and accountants. (Bogota Latin Bistro, 2020)

The Brooklyn Public Library is the fifth-largest library system in the United States of America and serves more than six million people each year. Their library card is free for anyone who lives, works, pays property taxes or goes to school in New York state. With its free membership for Brooklyn residents and their programs and services for children and adults, it transforms the local community and has a direct impact on social and economic development. In 2016, New York Library Association seeked proposals for the completion of a study of the economic impact of public libraries in New York State but the authors of this paper didn't manage to find that such study was ever published.

3.4. Ivan Goran Kovačić City Library's Business-information center

Concept of a business library is a novelty within Croatia's community of public libraries. If we search data bases, we can find very rare expert studies about business libraries and librarian service for the business community published in Croatia, and, if we add to that the fact that there is only one such library in the country, the one in Karlovac, and only one business corner, the one in Rijeka's public library, we can conclude that the development of business librarian services is still at the very beginning.

Croatian libraries met the business library concept for the first time within the "Work with US" project that the Embassy of the United States, the Faculty of Economics of the Zagreb University and the Croatian Library Association conducted in 2015. The project was created from the before mentioned program which the US embassy started in order to present American work culture to Croatian students through lectures held by those working in American firms present in Croatia. American business librarian Raymond O'Keefe Cruitta held a couple of lectures titled "How Public Libraries Contribute to Local Economic Development" which inspired us for the idea to encourage Croatian libraries to start providing business librarian services. Librarians have been invited to initiate the creation of such departments in their libraries. That kind of a project proposal of the Karlovac city library has been titled as the best and financially awarded in October of 2015. Therefore, the space for creating the Businees-informational center in Karlovac city library has been opened.

The Ivan Goran Kovačić City Library is the largest and oldest cultural institution in Karlovac and Karlovac County and one of the five largest public libraries in Croatia. Its core activity is the procurement, preservation and provision of library and non-library materials. It serves to meet the cultural needs of the population, to encourage lifelong learning, professional and scientific work, information, decision-making and democratization of society in general. In addition, it is a central place for providing fast and quality information and a city meeting place that offers numerous facilities for all age groups, from babies to retirees. The library was ready to expand and develop its services by establishing an Informational-business center in light of its mission, standards for public libraries which note the obligation to make information available to all citizens, following contemporary trends and working in synchronization with technology development. It has been concluded that this kind of service can help improve a not-so-good economic situation caused by a large unemployment rate and burdening the enhancement of entrepreneurship (Katić, 2017, 108). Rich and quality source of information, services that the library offers, and the expertise of librarians were a significant asset for the implementation of a new service and its development accordant to the needs of our present and future users. Also, there were no business incubators nor lectures and workshops for young entrepreneurs.

Business-informational center of "Ivan Goran Kovačić" City Library was opened in 2016. in the same space where a youth library is located – it is a disclosed library space in an old town center. Our intention was that business-informational center was focused on young people because of the lack of educational and informational services for entrepreneurs and youth in general – the most vulnerable social group (a large unemployment rate of young Croatians, unstable labor market, constant reduction of labor and social rights and the rise of life-costs) (Bilić, Jukić, 2014). One of the solutions for that problem is to engage young people in entrepreneurship, and a large amount of youth is afraid of entering "that world". Aside from inexperience, they face the problems of lack of skills, too heavy bureaucracy burdens, negative social reactions etc. To help young people to overcome those problems, library can, as an informational institution, enable working space with all needed information for starting their own business or keeping the one they already have.

For that purpose, a part of the reading room has been arranged and a specialized, thematic fund of book material has been established. It includes literature on economics, management, entrepreneurship, accounting, the European Union, textbooks for language learning, magazines for abovementioned fields and two laptops with TAX-FIN-LEX database access.

Furthermore, users can work on computers with free access to economic and entrepreneurship data-bases.

Lectures and workshops at the Business-informational centre are organized with various partners such as Croatian Chamber of Economy, Economy Clinic, Karlovac University of Applied Sciences, Karlovac Economic and Touristic High-School and the US Embassy. Lectures and workshops are divided into three units. First set of lectures was oriented to promoting entrepreneurship with the youth presenting successful business stories. Nenad Bakić, Davor Bruketa, Josip Bišćan, Boris Benko are only some of those who shared their success stories and inspired young people to start their own business. Financial literacy, especially the youngest, is the theme of the second set of activities. Research shows that, if we educate a child about entrepreneurship, it is more likely that later it will start a business and succeed (Dubiel Potnik. et al., 2016, 43). For that age group we organize lectures and workshops like creating a business plan, development of a business idea, finding finance sources and promotional campaigns.

Activities of Business-informational center have encouraged concrete business cooperation. After a lecture on craft brewing, a deal has been made on starting a Craft Beer Festival, which has been organized soon afterwards.

A web page has been established on an address www.poslovna-knjiznica.com which offers textual summaries and full video recordings form the "Successful entrepreneurs" cycle of lectures. Also, a base of useful links has been created, collections of recommended business literature and a link on a couple of sources for every question.

In order for a library to be a business library, it should adjust its policies and sources of finance, enable trainings for staff members to enhance their skills for starting and managing business libraries, develop literature funds which deal with business goals and those libraries should gain relevance with the wider business community, be connected with other libraries and use all of other informational sources. They should, also, be technologically capable to cover access to current and invariable data (Bugarinovski Udiljak, Holcer, 2015, 221). Business libraries' strategic goals should be enabling the development of life-long learning and education, contributing to economic recovery and giving support in learning economic knowledge, encourage creativity and diversity, promoting cultural diversity of the local community and offering knowledge and guidelines for gathering information and planning of a entrepreneur undertaking (Day, 2002, 19).

Considering that business libraries are a novelty in Croatia and that "Ivan Goran Kovačić" City Library is the first one to give this kind of services, problems were expected. Three main ones arouse from 2016, when Business-informational center was established, and they were not solved to date. The first one regards long-term financing, sustainability, in other words. Most of the programs are realized through the cooperation with numerous partners and through projects applied for financing to Ministry of culture and the City of Karlovac. Still, sustainability requires long-term sources of income for this kind of activity which the founder did not provide. Another great problem for librarians working in business library is acquiring additional expert training for business. Some research show that business librarians are better at their tasks if are specially educated in entrepreneurship. If so, they search data bases with more ease, know the language of entrepreneurship and understand better user's inquiries. A part of that problem was trying to solve with the "Business librarianship in Karlovac County" project in order to educate librarians on entrepreneurship and encourage other libraries in Karlovac County to open their own business-departments, corners or funds and therefore enable connections and cooperation between business-librarians. The results were partial. Librarians were educated but we didn't succeed in spreading that kind of library services through the county and, hence, the cooperation did not occur. A third problem is accepting business-librarians and business-libraries as an equal partner to the business community. It's a long-term process and considering that the Business-informational center in "Ivan Goran Kovačić" Karlovac City Library is only three years running, we hope that in the coming years it will be accomplished. The end goal is to create a business-librarian integrated in the

business community. Such a business-librarian becomes a part of that sphere and an equal partner (Jukica, 2017, 32). It can only be accomplished when small-firm owners, experts and the unemployed perceive a business-librarian as a colleague, and not as a person who just represents the library. To gain that status, librarian must attend business meetings and enroll himself in business networks. The success of a business-librarian depends on him. His interest is of the most importance, as is the curiosity and a will to gain knowledge on business, libraries and a will to make a difference. In order to succeed, such a person must invest in himself through learning about new technologies, trends and relationships (Alvarez, 2017).

There are challenges ahead for a development of business librarianship in Karlovac County and in Croatia. We can hope that the community, and librarians specially, start to view libraries out of their traditional and historical frameworks and notice the potential that can contribute to the reconstruction of the economy.

4. Conclusion

The paper described case studies of public libraries in Calgary, London, Brooklyn New York and Karlovac and provided results of analyses which assessed and stated the financial effects of their operations on the local economy in relation to the resources invested in their work. The examples show that researchers have found that big public libraries are making significant economic gains for their local communities.

Libraries create this financial benefit for their community by enabling users to access new ICT resources, general and specialized business information, training to empower personal competencies and encourage entrepreneurship, enabling the involvement of all community members in community education and other social processes, empowerment programs for marginalized groups and their facilitation, inclusion in the labor market, enabling workers to search for jobs as well as business opportunities for entrepreneurs, etc.

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FROM GREEN GDP TO GREEN GROWTH – STYLIZED MACROECONOMIC MODELLING

ABSTRACT

The concept of green growth, i.e. economic growth that reflects environmental objectives, is not so obscure and unfamiliar. Green growth logic is based on making growth process resource efficient, cleaner and more resilient without necessarily slowing them. However, when we try to put it in the standard growth framework we come across many theoretical dwells and pragmatic questions. On the other hand, growth theory may provide many insights into the mechanism and features of economic growth, but cannot render insights into the magnitude of effects without being systematically confronted with latent real time data. Considering traditional economic growth theories that identify sources of economic growth, which are paralysed with assumptions about substitution, rate on returns and technical change, it is not easy to evaluate direct or indirect contributions of environmental protection to economic growth, and vice versa. Yet, growth theory can offer more explanation about green growth if it can reveal the hidden bond between Green GDP and traditional sources of growth such as capital accumulation and labour productivity. This research provides stylized representations of growth with environmental prism as to evaluate the pattern, as well as the dynamics of economic growth. The purpose of the paper is to assess the green growth perspective by confronting conventional factors of growth, such as capital and human stock with two different representations of the Green GDP measure. Research logic is built on a panel cointegration approach that utilizes annual data for the EU27 (plus UK) countries. Empirical evidence suggests that Green GDP growth models provide results that are consistent with general features of standard economic growth models, however, with an ambiguous reach of human capital variable, that in fact limits the growth possibilities.

Key words: growth models, green GDP, green growth, panel cointegration, EU.

1. Introduction

A green response to the economic crisis, which indirectly unveils the problem of 'environment in crisis', leads us to the green intonation of economic growth. Not only does the mainstream discourse sees green growth as a solution to environmental issues and climate challenges, but

many international organizations, governments, civil societies, academia as well as the media, have all contributed to build a case for environmentally attached growth, as a way to address the sustainability of economic growth. The purpose of the discourse of green growth has therefore been to shift from economically negative and politically unattractive framing to a more positive one for many proponents of green growth not only insist on the compatibility of growth and environmental protection, but claim that protecting the environment can actually yield better growth (Jacobs, 2013, p. 6). Unfortunately, history provided no evidence that green growth is a likely option (Bergh, 2015, p. 17). Yet! The concept of green growth, i.e. economic growth that reflects environmental objectives, is not so obscure. Green growth logic is based on making growth process resource efficient, cleaner and more resilient without necessarily slowing them. In that sense, as Jacobs (2013, p. 7) claims, rather more than was true of sustainable development, green growth is not just a normative ideal, as it carries within it a strong economic claim, both theoretical and empirical. However, when we try to put it in the standard growth framework we come across many theoretical dwells and pragmatic questions. A huge body of literature can be found on the topic of exogenous and endogenous growth models with environmental or natural resource factors suggesting that under certain conditions a 'compatibility' is possible. On the other hand, growth theory may provide many insights into the mechanism and features of economic growth, but cannot render insights into the magnitude of effects without being systematically confronted with latent real time data. By observing traditional economic growth theories that identify sources of economic growth, which are paralysed with assumptions about substitution, rate on returns and technical change, it is not easy to evaluate direct or indirect contributions of environmental protection to economic growth, and vice versa. Still, growth theory could provide more comprehensive insight into a green growth if it can reveal some specific relationships between Green GDP and traditional sources of growth such as capital accumulation and labour productivity.

This research provides stylized representations of growth with environmental prism as to evaluate the pattern, as well as the dynamics of economic growth. The purpose of the paper is to assess the green growth perspective by confronting conventional factors of growth, such as capital and human stock with two different representations of the Green GDP measure. Hence, the main hypothesis states that Green GDP measure can be (efficiently) engaged in macroeconomic growth modelling. Research logic is built on a panel cointegration approach that utilizes annual data for the EU countries and the UK (ex EU28) for the period 2008-2016. The short time period of the analysis reflects the Green GDP data unavailability. In order to obtain a homogenous sample with comparable results, having in mind that the most satisfactory countries, by the standard of sustainability, are coming from the EU (Stjepanović, Tomić and Škare, 2019, p. 8), we opted to analyse the sample of EU27 (plus UK) countries. Empirical evidence suggests that presented Green GDP growth models provide results that are consistent with general features of standard economic growth models, however, with an ambiguous reach of human capital variable, that in fact limits the growth possibilities.

2. Theoretical background of green growth and literature review

2.1. Green growth perspective within macroeconomic modelling

The basic puzzle of growth theory is to describe the behaviour of an expanding economy over time. Many attempts to construct the theory of growth gave ground for examples that were questioned not only by empirical, but also by theoretical aspects. As the economic growth improves quality of life to a certain point, it usually has a negative effect beyond this point, so when this point is crossed, further economic growth can deteriorate the quality of life due to the

costs associated with an increasing income inequality, the rise in social and public health cost, loss of leisure time, pollution damage, climate change, natural resource depletion, and etc. So, the question of co-existence of equitable and sustainable development and current patterns of economic growth comes into first plan. There is an influential stream (for example, see OECD, 2011) leaning towards an opinion that as income increases, countries will lean towards more sustainable technological solutions, i.e. become more socially and environmentally conscious, hence, achieve economic progress that takes due account of social welfare implications, natural resource and environmental degradation; suggesting in that way that sustainable development can really co-exist with current economic patterns of growth[1].

For example, the debates on growth vs. environment have a long history. They are usually occurring between those believing in limitless growth and those seeing natural and environmental resource limits to growth (Bergh, 2015, p. 2). This kind of debate is, from political, economical and geo-strategic point, far from over, however, ignoring the perspective of sustainable development and green growth would mean that we are indifferent about the desirability or undesirability of economic growth. If we want to embrace a rational approach that reflects the importance of modern public opinion, the assessment of advantages, shortcomings and implications of such growth, significant economisation of the sustainable development and green growth discourse, as well as political feasibility, the question of oblivion towards the destruction of socio-economic systems cannot be by-passed. Hallegatte et al. (2012, p. 4) pointed well that: (1) there is a strong analytical case for green growth, so that the researcher can identify channels that are theoretically able to make green policies contribute to economic growth (with detailed and country-context specific analyses of these channels are required to conclude what will be the end results in any specific situation); (2) looking at economic development and environmental protection in a common growth framework enables us to identify substantial synergies between them; (3) social and political acceptability of green growth policies requires maximizing the benefits and co-benefits (including a positive impact on poverty alleviation and job-creation, as well as managing unavoidable trade-offs); and (4) green growth policies should focus on what happens over the period of 5 to 10 years in which the world would be in an agreements, settlements and production patterns that are expensive and complex to modify.

Considering the importance and future perspective of green growth and shortcomings of standard measures of economic growth and development, such as GDP and/or GDP per capita growth, there is no reason to doubt the need for an indicator such as Green GDP, even with methodological, theoretical and practical barriers that follow that measure. Green GDP is today known as a general concept that refers to a wide array of adjusted GDP measures that are corrected for social and environmental costs (for some of these commodities are not traditionally presented in monetary units). Therefore, Green GDP is just an alternative way for the quantification and measurement of the monetary impact of social and environmental damage caused by a country's economic growth (Stjepanović, Tomić and Škare, 2017, p. 577). As a time series measurement it can indicate whether national wealth (and welfare) is growing or not. Namely, if total national output is growing and the Green GDP is growing, development can be said to be sustainable and vice versa (Alfsen, et al., 2006, p. 9).

The real question that arises from these characteristics of green growth and Green GDP is should environment green growth analysis as a factor in a production function and/or be incorporated in the total output as correcting measure. The idea that total output is directly

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[1] Green growth presents a path of fostering economic growth and development, while ensuring that natural assets continue to provide the resources and environmental services on which human well-being relies.

dependant on the stock of natural resources and on environmental quality has been around for quite some time, however modifications of existing growth theories are very limited. In most of growth theory models (from Solow's exogenous type to Arrow's, Lucas's to Romer's endogenous production growth), economic policies can influence the accumulation of physical, social and human capital to maximize output or to maximize the growth in output, however, within them the environment has no productive role (Hallegatte et al., 2012, p. 5)[2]. It is hard to identify channels that are theoretically able to make green attributes contribute to economic growth having in mind that human, capital and environmental stock can change over time and/or provide results with a time lag. On the other hand, as theoretical and computational issues hinder the development of green growth economic models based on, for example Green GDP indicator, they nonetheless provide a source of data that can be used to re-examine the links between GDP and sources of growth commonly used in economic growth models (Talberth and Bohara, 2006, p. 744). Since the standard GDP measure ignores a large number of economically valuable outputs that are not estimated on the market (such as variety of ecosystem service values) and natural resource depletion and environmental degradation, the usage of Green GDP (as a variable on the left side of the growth equation) as a more vague (and maybe accurate) indicator of welfare could be interesting from the theoretical (macroeconomic modelling) and practical (sustainability) perspective. In addition, a view that economic development and growth would eventually lead to environmental sustainability, the fact that developed countries consume more resources per capita than developing countries and that ecological/economic impact are felt in other places, implies that Green GDP has a potential to serve as a metric for sustainable progress policy as well as measure the strength of the means of implementations (policies or programmes) for promoting sustainability (Stjepanović, Tomić and Škare, 2019, p. 7). By replacing standard GDP measure with, an alternative Green GDP measure, we are trying to provide a new angle on the green growth dynamics.

2.2. A short review of related literature

How to put the growth theory and the environment in the same analysis, as to address the question of limits to growth, forced economists to broaden their analytical framework. Some of the seminal papers that addressed environmental issues are represented by Dasgupta and Heal (1974), Sollow (1974) and Stiglitz (1974) as they developed on-sector models of neoclassical growth with endogenous technical progress where, along with capital and labour, also a depleted resource is included in the production function. More recent surveys include archetypal models (Aghion and Howitt, 1998; Smulders, 1999) as a part of new growth theory that takes the environment into account (Luzzati, 2003, p. 334). There is a great number of studies dealing with different domains of economic growth theory, however, there will only be presented papers that follow our line of inquiry; how different factors of growth can be related to green growth i.e. Green GDP. An interested reader can find out more about the conceptual background of this study by analysing next few papers.

Talberth and Bohara (2006), were one of the first to evaluate the nexus between GDP and the host of factors commonly included in traditional economic growth models as they developed models of Green GDP growth and the gap between traditional and Green GDP by using a panel data set of eight developed countries for the period spanning 30 to 50 years. The authors found strong and robust results suggesting a negative nonlinear correlation between openness and Green GDP growth and a positive nonlinear correlation between openness and growth of the gap between traditional and Green GDP. Similarly, Wang (2011) tested the effect of openness

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[2] For further discussion read Hallegatte et al. (2012) and Smulders, Toman and Withagen (2014).

to international trade at Chinese provincial level for the period 2003-2015, by applying comparable Green GDP data from 31 provinces and regions to a variant of the Solow growth model. His results revealed a nonlinear relationship between Green GDP and openness, measured both by volume of trade and foreign direct investment, at provincial level. In addition, openness had an inverted U shape effect, meaning it increases sustainable development at the beginning and decreases sustainable development after a threshold point. Tomić (2020) offered a wider perspective on the same topic as he modelled the effects of both, capital and human stock, as well as the effect of economic openness. Empirical analysis, based on a panel cointegration approach for the set of 44 countries, ranging from developed and developing ones for the period 2008-2016, suggested that presented Green GDP growth model provided results that are consistent with general features of standard economic growth models with ambiguous and probably dual characteristic of the relationship between economic openness and green growth. Finally, he concluded there is no enough international evidence about the direction of the impact of openness on economic growth, but that this relationship was highly statistically significant and robust. Abdul Rahim and Noraida (2015) tried to examine the short-run and long-run causal relationship between the Green GDP, traditional GDP, CO_2 emissions, trade openness and urbanization for Malaysia by ARDL bounds testing approach for the period 1980-2010. They found that the long-run as well as the short-run CO_2 emissions has significant positive impact on green GDP and traditional GDP for Malaysian economy and that trade openness and urbanization are significantly related to the growth of green GDP and traditional GDP measure.

Considerable empirical evidence has shown strong linkages between the Green GDP and traditional and some 'modern' factors of growth, however, we have to accentuate that this kind of modelling is threatened by the methodological inconsistency of the Green GDP measurement as well as by new factors that are becoming important for economic growth.

3. Methodological framework

3.1. Neoclassical growth framework

In attempting to solve the stability problem of full-employment steady state, Sollow (1956) presented neoclassical production function that allows flexible coefficients of production. Sollow (1956, 1957) assumed that there is only capital and labour as a factor of production and influenced by other factors which may affect the productivity of these inputs. Namely, the technology is represented by means of production function with a constant return of scale, decreasing productivity to physical capital and possibly labour-augmenting technical progress. To incline the relevance of the Green GDP indicator and its potential to serve as a metric for sustainable progress, the indicator was incorporated it in the traditional model of economic growth[3]. From a more general form of growth model, a simpler one can be derived:

$$GGDP_t = f(K_t, L_t,) \qquad\qquad (1)$$

where *GGDP* stands for the Green GDP at time *t*, *K* for the measure of a capital stock at time *t* and *L* for the measure of labour input at time *t*. Such basic model can be modified towards a more specific form of Green GDP model that relies on widely accepted data representing common factors of growth. In order to better understand the green growth perspective, two similar production functions were evaluated, but with two distinct measures representing the

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[3] Research logic follows the paper by Talberth and Bohara (2006) and Tomić (2020).

output, i.e. Green GDP; namely a standard Green GDP measure and the gap Green GDP. The reduced form of an aggregate production function can be therefore expressed through two separate equations:

$$lnGGDP_{it} = \alpha_{0i} + \beta_{1i}lnGFCF_{it} + \beta_{2i}lnADR_{it} + u_{it}, \quad i = 1, 2, K, N, \ t = 1, 2, K, T \qquad (2)$$

$$lnGAP_{it} = \alpha_{0i} + \beta_{1i}lnGFCF_{it} + \beta_{2i}lnADR_{it} + u_{it}, \quad i = 1, 2, K, N, \ t = 1, 2, K, T \qquad (3)$$

where $lnGGDP_{it}$ represent the logarithm of Green GDP at time t, $lnGAP_{it}$ represent the logarithm of the gap between the Green GDP and standard GDP indicator at time t, $lnGFCF_{it}$ stands for gross fixed capital formation as a measure of capital stock at time t, $lnADR_{it}$ stands for age dependency ratio as a measure of labour input at time t; and u_{it} is the error term while i and t denotes country and time respectively.

3.2. Data and methodology

Annual panel data on the observed variables, covering the period 2008-2016 for EU28 countries, are taken from the World Bank database. The data for Green GDP are taken from the paper Stjepanović, Tomić and Škare (2019) whose calculations are based on an alternative approach to sustainability and green growth (Stjepanović, Tomić and Škare, 2017). Data (un)availability is a major obstacle in achieving more (time) extensive research on a cross-country base for most of the data needed for calculation of the Green GDP are published irregularly. Data are expressed in logarithms and presented as: $lnGGDP$ as the logarithm of the Green GDP indicator, $lnGAP$ as the logarithm of the gap from Green GDP to standard GDP measure, $lnGFCF$ as the logarithm of gross fixed capital formation[4] and $lnADR$ as the logarithm of age dependency ratio[5] (% of working-age population).

Having specified the models that would encompass the relationship on a cross-country scale, it can be anticipated that cointegration between included variables may exist. For that purpose, we tried to estimate models through cointegration method with panel data[6]. Cointegration analysis with panel data is similar to cointegration usually employed in time series analysis and consists of unit root tests, cointegration tests and the estimation of long-run (and short-run) relationship. Methodological explanations follow the explanations from Škare, Benazić and Tomić (2016). The literature on panel cointegration has been expanding rapidly, responding to the complex nature of interactions and dependencies that exist over time and across the individual units in the panel (Breitung and Pesaran, 2005, p. 39). Many authors have generally confirmed that it is the span of the data, rather than frequency that matters for the power of this approach (Pedroni, 2000, p. 101). So, the pooling of time series is traditionally related to the substantial degree of sacrifice in the terms of possible heterogeneity of individual time series, therefore, testing the unit root and cointegration hypothesis by using panel data involves several serious complications (unobserved heterogeneity, independence of cross-section units, difficult

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[4] Gross fixed capital formation (formerly a gross domestic fixed investment) includes land improvements (fences, ditches, drains, and so on); plant, machinery, and equipment purchases; and the construction of roads, railways, and the like, including schools, offices, hospitals, private residential dwellings, and commercial and industrial buildings. Data are in constant 2010 U.S. dollars.

[5] The age dependency ratio is the ratio of dependents - people younger than 15 or older than 64 to the working-age population - those ages 15-64 (as the proportion of dependents per 100 working-age population).

[6] The presumption about homogeneity among countries suggests that the panel data approach should be an appropriate method for replying to our research question. This presumption will also be tested within the empirical part of the analysis by the homogeneity tests which will suggest statistical insignificance of the heterogeneity in the cointegration equation.

interpretation). The growing popularity of panel cointegration is due to good reasons: first many important economic questions are naturally framed in a panel perspective, and second, adding the cross-section dimensions grants considerable improvements to the small sample properties of testing procedures, provided the possible linkages across units are properly accounted for (Di lorio and Fachin, 2011, p. 10).

The analytical part sets off with conducting a battery of panel unit root tests, as it is very important to determine the order of integration of a time series in order to avoid spurious results, especially since many economic variables are often characterized by non-stationarity. If the series are non-stationary and integrated of same order, the analysis continues with testing for the panel cointegration. Therefore, to test the order of integration following panel unit root tests are considered: LLC test (Levin, Lin and Chu, 2002), Breitung test (Breitung, 2000), IPS test (Im, Pesaran and Shin, 2003) and Fisher-type tests using the ADF (Maddala and Wu, 1999 and Choi, 2001). LLC and Breitung tests under the null hypothesis assume the common unit root process, while IPS and Fisher-type tests under the null hypothesis assume the individual unit root process. On the other side, LLC and Breitung tests under the alternative hypothesis assume no unit root, while IPS and Fisher-type tests assume that some cross-sections are without unit root. Next, in the LLC, Breitung, IPS and Fisher-ADF tests, the automatic lag length selection is based on Schwarz information criteria with a maximum lag of 3. Finally, to estimate the long-run variance in the LLC tests, the Bartlett kernel was used with maximum lags determined by the Newey and West bandwidth selection algorithm.

In continuation, panel cointegration tests were evaluated according to Pedroni (1999, 2004) and Kao (1999). Pedroni and Kao extend the two-step Engle-Granger (1987) framework to tests involving panel data. Pedroni proposes several tests for cointegration that allow for heterogeneous intercepts and trend coefficients across cross-sections with two alternative hypotheses: the homogenous vs. heterogeneous alternative. The Kao test follows the same approach as the Pedroni tests, but specifies cross-section specific intercepts and homogeneous coefficients within the first-stage regressors. Assuming research homogeneity, in Pedroni's cointegration test the automatic lag length selection is based on Schwarz information criteria with lags from 2 to 3 while the spectral estimation used in computing the test statistic or statistics is based on the Newey-West automatic bandwidth selection and Bartlett kernel. The same is done within the Kao cointegration test except that the automatic lag length selection is set to a maximum of 2.

The long-run relationship is estimated using the pooled Panel Fully Modified Least Squares (FMOLS), pooled Panel Dynamic Least Squares (DOLS) and Pooled Mean Group/AR Distributed Lag (PMG/ARDL) estimation methods. Since FMOLS and DOLS provide only long-run estimates, for the short-run estimation PMG/ARDL is also applied. These approaches assume the existence of a single cointegrating vector between panel data, which is empirically relevant, since the analysis explores the relationship between four variables. Next, Phillips and Moon (1999), Pedroni (2000), and Kao and Chiang (2000) proposed extensions of the Phillips and Hansen (1990) FMOLS estimator to panel settings while Kao and Chiang (2000), Mark and Sul (1999, 2003), and Pedroni (2001) propose extensions of the Saikkonen (1992) and Stock and Watson (1993) DOLS estimator. FMOLS and DOLS estimation methods for panel settings allow the estimation of the panel cointegrating regression equation for non-stationary data by correcting the standard pooled OLS for serial correlation and endogeneity of regressors that are usually present in long-run relationships. In addition, the DOLS allows augmenting the panel cointegrating regression equation with cross-section specific lags and leads to eliminate the endogenity and serial correlation. The PMG/ARDL (Pesaran, Shin and Smith, 1999) takes

the cointegration form of the simple ARDL model and adapts it for a panel setting by allowing the intercepts, short-run coefficients and cointegrating terms to differ across cross-sections. Therefore, the main advantage over the FMOLS and DOLS is that it can allow the short-run dynamic specification to differ across cross-sections while the long-run coefficients are constrained to be invariant. For FMOLS and DOLS the default (homogenous variances) coefficient covariance matrix computations uses an estimator of the long-run variance computed using a Bartlett kernel and fixed Newey-West bandwidth. Hence, within DOLS approach, lags and leads are specified using the automatic lag length selection based on the Schwarz information criterion. In the end, for PMG/ARDL, the automatic lag length selection of dependent variable and dynamic regressors is set as a maximum lag of 2 based on a Schwarz criterion with.

4. Panel cointegration analysis: results and discussion

In order to demonstrate a possible causal relationship between the observed variables, correlation coefficients were extracted. Correlation matrix (*Table 1*) depicts a weak to medium correlation between the Green GDP indicator and other (independent variables), suggesting that there could exist a long-term cointegration relation. On the other side, gap Green GDP variable renders questionable relationship towards included factors of growth. So, the long-term cointegration relationship is assessed through three standard steps.

Table 1: Correlation matrix

Corr.	lnGGDP	lnGAP	lnADR	lnGFCF
lnGGDP	1.0000	0.3592	0.4653	0.9935
lnGAP	0.3592	1.0000	0.0911	0.3382
lnADR	0.4653	0.0911	1.0000	0.4466
lnGFCF	0.9935	0.3382	0.4466	1.0000

Source: Authors' calculation

In the first step, unit root tests indicated that the variables are integrated of order I(1), i.e. they are non-stationary in level and stationary in first differences (*Table 2*). Though, unit results are rather heterogeneous, graphical display of the variables across the panel suggested their non-stationarity. In respect, a panel cointegration tests can be implemented.

Table 2: Panel unit root tests

Variable and test	Level		First difference	
	Intercept	*Intercept and trend*	*Intercept*	*Intercept and trend*
Levin, Lin and Chu t	*Prob.*			
lnGGDP	0.0000	0.0000	0.0000	0.0000
lnGAP	0.0000	0.0000	0.0000	0.0000
lnGFCF	0.0000	0.0000	0.0000	0.0000
lnADR	1.0000	0.0000	0.0000	0.2755
Breitung t-stat	*Prob.*			
lnGGDP	-	0.1406	-	0.0032
lnGAP	-	0.0219	-	0.2117
lnGFCF	-	0.9990	-	0.3511
lnADR	-	1.0000	-	0.9999
Im, Pesaran and Shin W-stat	*Prob.*			
lnGGDP	0.5418	0.3429	0.0000	0.0020
lnGAP	0.0086	0.1986	0.0001	0.3493
lnGFCF	0.2976	0.5084	0.0000	0.0252
lnADR	0.7713	0.3207	0.0008	0.7164

Variable and test	Level		First difference	
	Intercept	Intercept and trend	Intercept	Intercept and trend
ADF - Fisher Chi-square	Prob.			
lnGGDP	0.4629	0.1052	0.0000	0.0000
lnGAP	0.3860	0.0146	0.0000	0.1236
lnGFCF	0.0966	0.1167	0.0000	0.0000
lnADR	0.0870	0.0164	0.0001	0.3640
ADF - Choi Z-stat	Prob.			
lnGGDP	0.4079	0.0835	0.0000	0.0000
lnGAP	0.2532	0.0013	0.0000	0.2207
lnGFCF	0.3375	0.5170	0.0000	0.0001
lnADR	0.9593	0.2010	0.0002	0.9349

Source: Authors' calculation

In the second step, the results from Pedroni's and Kao's panel cointegration tests were evaluated for both, *Equation 1* (*Table 3*) and *Equation 2* (*Table 4*). For both Green GDP variables and in both cases, when only intercept is included and again when intercept and trend are included, most of the Pedroni's statistics reject the null hypothesis of no cointegration between variables indicating the existence of long-run panel cointegration relationship between the observed variables. Obtained results indicate the existence of at least one cointegrating vector. Thus, it can be concluded that there exists a long-run relationship. Kao's panel cointegration test strongly rejects the null hypothesis of no cointegration between variables indicating the existence of long-run panel cointegration relationship between the observed variables. According to two residual cointegration tests, a convincing evidence of a long-term cointegration between the variables for both equations is found. Since Johansen Fisher panel cointegration results may vary according to the number of lags used and due to other specifications, and in addition this method provided us with indecisive outcomes, we opted not to use this type of cointegration test.

Table 3: Cointegration tests; lnGGDP vs. selected factors of growth

Pedroni residual cointegration test	Variables: **lnGGDP**, **lnGFCF**, **lnADR**							
	Intercept				Intercept and trend			
	Statistic	Prob.	Weighted Statistic	Prob.	Statistic	Prob.	Weighted Statistic	Prob.
Panel v-Statistic	-2.8202	0.9976	-3.6349	0.9999	-5.6496	1.0000	-6.5040	1.0000
Panel rho-Statistic	0.7569	0.7754	0.5131	0.6961	3.2391	0.9994	3.0843	0.9990
Panel PP-Statistic	-6.7054	0.0000	-8.8745	0.0000	-8.1518	0.0000	-12.4786	0.0000
Panel ADF-Statistic	-5.2998	0.0000	-6.1342	0.0000	-5.7702	0.0000	-8.0211	0.0000
Group rho-Statistic	3.2589	0.9994			5.2660	1.0000		
Group PP-Statistic	-11.6276	0.0000			-23.7576	0.0000		
Group ADF-Statistic	-7.4259	0.0000			-14.9452	0.0000		
Kao residual cointegration test	*t-Statistic*				*Prob.*			
ADF	-3.0231				0.0013			

Source: Authors' calculations

Table 4: Cointegration test: lnGAP vs. selected factors of growth

Pedroni residual cointegration test	Variables: **lnGAP**, **lnGFCF**, **lnADR**							
	Intercept				Intercept and trend			
	Statistic	Prob.	Weighted Statistic	Prob.	Statistic	Prob.	Weighted Statistic	Prob.
Panel v-Statistic	-1.7672	0.9614	-3.1802	0.9993	-4.4305	1.0000	-6.0088	1.0000
Panel rho-Statistic	2.2406	0.9875	2.4429	0.9927	4.8443	1.0000	4.7666	1.0000

Variables: **lnGAP**, **lnGFCF**, **lnADR**								
Pedroni residual cointegration test	Intercept				Intercept and trend			
	Statistic	*Prob.*	*Weighted Statistic*	*Prob.*	*Statistic*	*Prob.*	*Weighted Statistic*	*Prob.*
Panel PP-Statistic	-2.1326	0.0165	-3.9768	0.0000	-2.0588	0.0198	-7.9733	0.0000
Panel ADF-Statistic	-6.3652	0.0000	-6.5980	0.0000	-5.2255	0.0000	-6.7121	0.0000
Group rho-Statistic	4.9563	1.0000			6.2939	1.0000		
Group PP-Statistic	-4.2371	0.0000			-15.3457	0.0000		
Group ADF-Statistic	-8.3112	0.0000			-8.4610	0.0000		
Kao residual cointegration test	*t-Statistic*				*Prob.*			
ADF	-2.5484				0.0054			

Source: Authors' calculations

In the third step, the panel cointegration results from FMOLS, DOLS and PMG/ARDL estimation methods were evaluated for both, *Equation 1* (*Table 5*) and *Equation 2* (*Table 6*), testing the characteristics of the long-run linear cointegration relations. In addition, PMG/ARDL estimations also provide us with the results from the short-run dynamics.

Table 5: Panel cointegration results (Pooled estimation) – lnGGDP (dependent variable)

Panel Fully Modified Least Squares (FMOLS) – (lags-leads; 0,0)								
Variable	Constant				Constant and trend			
	Coefficient	*Std. Error*	*t-Statistic*	*Prob.*	*Coefficient*	*Std. Error*	*t-Statistic*	*Prob.*
lnGFCF	0.3615	0.0371	9.7361	0.0000	0.1669	0.0446	3.7402	0.0003
lnADR	-0.3658	0.1423	-2.5708	0.0109	-2.7713	0.8260	-3.3550	0.0010
Panel Dynamic Least Squares (DOLS) – (lags-leads; 0,0)								
Variable	Constant				Constant and trend			
	Coefficient	*Std. Error*	*t-Statistic*	*Prob.*	*Coefficient*	*Std. Error*	*t-Statistic*	*Prob.*
lnGFCF	0.2797	0.0428	6.5283	0.0000	0.0891	0.0499	1.7832	0.0773
lnADR	-0.7962	0.1458	-5.4604	0.0000	-2.5916	0.7643	-3.3908	0.0010
PMG/ARDL (Pooled Mean Group/AR Distributed Lag) – ARDL (1,1)								
Variable	Restricted constant				Constant and trend			
	Coefficient	*Std. Error*	*t-Statistic*	*Prob.*	*Coefficient*	*Std. Error*	*t-Statistic*	*Prob.*
Long Run Equation								
lnGFCF	0.2221	0.0230	9.6406	0.0000	0.0566	0.0161	3.5061	0.0007
lnADR	-1.1434	0.1007	-11.3588	0.0000	-1.3648	0.1573	-8.6778	0.0000
Short Run Equation								
COINTEQ01	-1.0825	0.0727	-14.8847	0.0000	-1.2355	0.0825	-14.9846	0.0000
D(lnGFCF)	-0.0794	0.0774	-1.0258	0.3068	0.0592	0.0917	0.6456	0.5199
D(lnADR)	6.3726	2.0418	3.1210	0.0022	4.4465	2.8759	1.5526	0.1234
C	27.1712	1.8951	14.3379	0.0000	36.9234	2.5186	14.6602	0.0000
@TREND					-0.0005	0.0065	-0.0817	0.9350

Source: Authors' calculations

Table 6: Panel cointegration results (Pooled estimation) – lnGAP (dependent variable)

Panel Fully Modified Least Squares (FMOLS) – (lags-leads; 0,0)								
Variable	Constant				Constant and trend			
	Coefficient	*Std. Error*	*t-Statistic*	*Prob.*	*Coefficient*	*Std. Error*	*t-Statistic*	*Prob.*
lnGFCF	0.2917	0.0758	3.8501	0.0002	0.2202	0.0945	2.3325	0.0209
lnADR	0.2465	0.2904	0.8491	0.3969	-0.1274	1.7478	-0.0729	0.9420
Panel Dynamic Least Squares (DOLS) – (lags-leads; 0,0)								
Variable	Constant				Constant and trend			

	Coefficient	Std. Error	t-Statistic	Prob.	Coefficient	Std. Error	t-Statistic	Prob.
lnGFCF	0.3024	0.1092	2.7695	0.0064	0.0911	0.1071	0.8507	0.3968
lnADR	0.0929	0.3716	0.2500	0.8029	1.0495	1.6387	0.6405	0.5232
PMG/ARDL (Pooled Mean Group/AR Distributed Lag) – ARDL (1,1)								
	No constant no trend				*Restricted constant*			
Variable	Coefficient	Std. Error	t-Statistic	Prob.	Coefficient	Std. Error	t-Statistic	Prob.
Long Run Equation								
lnGFCF	0.1714	0.0107	15.9656	0.0000	0.1348	0.0289	4.6559	0.0000
lnADR	-0.9446	0.0692	-13.6455	0.0000	-0.3688	0.0851	-4.3346	0.0000
Short Run Equation								
COINTEQ01	-0.5152	0.0942	-5.4678	0.0000	-0.9776	0.0290	-10.8677	0.0000
D(lnGFCF)	0.0607	0.1584	0.3834	0.7019	-02378	0.1540	-1.5447	0.1247
D(lnADR)	2.5376	3.3382	0.7602	0.4482	9.1888	3.6973	2.4852	0.0141
C					-1.5025	0.1798	-8.3578	0.0000

Source: Authors' calculations

Results of all (pooled) estimation methods indicate that long-run coefficients are statistically significant with a direction that is theoretically expected and consistent with the global trends[7]. In the case with standard Green GDP measure (*Table 5*), gross fixed capital formation coefficients are positive and strongly significant varying from 0.28 to 0.36 in the case with constant and from 0.08 to 0.17 in the case for constant with trend for FMOLS and DOLS (except the coefficients obtained from the PMG/ARDL method, which is a bit lower in both cases). Accordingly, it can be concluded that a rise in physical capital leads to an increase in the Green GDP. On the other hand, a human capital variable presented through the age dependency ratio coefficients, displays statistically significant negative relationship, varying from -0.36 to -1.14 in cases with no constant and no trend, and from -1.36 to -2.77 in cases with constant and trend, across all three estimation methods. Such results indicate that larger dependant population *de facto* constrains Green GDP growth. In the case with the gap Green GDP variable (*Table 6*), a very resembling results were found, namely variable gross fixed capital formation tends to be also positive and strongly significant varying from 0.29 to 0.30 in the case with constant and from 0.09 to 0.22 in the case for constant with trend for all three estimation methods (except the coefficients obtained from the PMG/ARDL method, which is a bit lower for the case with no constant and no trend). Regarding the age dependency ratio, some mixed results were found for FMOLS and DOLS estimation methods (mostly positive, but statistically insignificant coefficients), however, with statistically significant negative relationship, varying from -0.37 to -0.95 in both cases for the PMG/ARDL method.

Individual short-run cross section results obtained from the PMG/ARDL model estimations (available upon request) suggest changes in physical capital variable are statistically significant, though the signs (direction of impact) differ across the countries in the panel. The same conclusion can be applied for the human capital, as results reveal mostly insignificant negative coefficients, but with relatively persistent discrepancy across the panel countries. None the less, the error correction coefficients are significant in almost all cases, have a correct negative sign and show a relatively slow speed of convergence to the long-run equilibrium, suggesting the stability of the model. In order to check the possible heterogeneity of the pooled FMOLS and DOLS estimates, the group-mean FMOLS and DOLS results of the same specifications are obtained and compared to those from the pooled estimation. The results are relatively similar,

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[7] Zero restrictions on the long-run parameters are tested using the Wald test (available upon request), confirming their statistical significance.

implying that heterogeneity in the cointegrating equation or the long-run covariances might be important (available upon request).

Similar results across all estimation methods and cases, suggest that we can trace stable, positive (for physical capital) and negative (for human capital) relationship to both Green GDP measures. This is true also for derivative variable gap to Green GDP, even though this gap correction is only an approximation of the true accounting distortion and in general can represent both, underestimation and/or overestimation, of the environmental damage. Considering the neoclassical growth framework, physical capital represented by gross fixed capital formation displays positive relationship to Green GDP for if a steady technical change continuously creates new investment opportunities, can per capita income growth be sustained. Higher rates of return to investment create incentives for households to save more, so that firms have access to more resources for investment and the economy grows faster, as it provokes more inputs for green growth (considering that more developed countries tend to spend more of their income on green growth policies). As Smulders, Toman and Withagen, (2014) point out, environmental policy can be expected to slow down capital accumulation and growth, but if it stimulates innovation, the trade-off would be softened. This also means that various externalities can be present, so that the actual investments in the economy can deviate from desired investments. On the other hand, our models suggest that human capital represented by the age dependency ratio displays negative relationship to the Green GDP. Important demographic changes (such as a rise in age dependency ratio; rise in elderly people or decrease in fertility rate) in the developed world in recent years may have long-term economic consequences as it can increase savings, decrease investment, impact housing market, change consumption patterns, alter standard economic policies and even translate into lower economic growth, hence lower GDP and Green GDP. Such trend in age dependency ratio may have a negative impact, however, Herzog and Reeves (2011) by using a non dynamic panel threshold effect found that as some countries experience an increase in old-age dependency rates, countries with lower domestic saving rates, moderate current account deficits, and are more open to trade can actually experience an increase in GDP growth rates. The final scope of growing scarcity in human capital, as it can really create a drag on economic growth, probably lies in the optimization of human capital allocation and future labour biased technological progress rather than on optimization of physical capital and environmental impact.

5. Conclusion

Various growth theories facilitate our better understanding of economic progress, especially on an aggregate level. Their importance increases as they are supplemented by empirically relevant evidence. In this sense, belief that there indeed exists a comprehensive green growth framework, i.e. the relationship between the Green GDP and traditional factors of growth, led us to stylized macroeconomic modelling in which we tried to gauge the proper magnitude of the resulting changes on the green growth. Namely, understanding the structure and outcomes of our models helps in understanding the distinct features of the growth theory itself. Accordingly, we have concluded that a rise in physical capital leads to an increase in the Green GDP as it can provide more inputs and investment for more sustainable growth, and that the human capital variable presented as the age dependency ratio, indicates negative implications upon growth, suggesting that larger dependant population may be constraining the Green GDP growth. In general, we can accept the main hypothesis as we provided enough evidence that a Green GDP measurement can be successfully comprised in standard macroeconomic growth modelling. Though the paper deals with relatively short time series and limited growth modelling framework, which are two major shortcomings of the research, we are of thought

that future research endeavours should include methodological endorsements and reassessments through different growth theory features. To conclude, this study is not a fancy econometric work, but an aspiration pointed towards clarification of some (green) growth related questions and therefore, our approach and deductions made above present only our research logic and could/should be subject to revision in the future.

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FINANCIAL EDUCATION OF THE POPULATION - A KEY FACTOR FOR SUCCESSFUL PERSONAL FINANCE MANAGEMENT

ABSTRACT

By acquiring new knowledge and technologies on a daily basis, one of the key competences of each individual is the possession of knowledge and skills in the field of finance. Financial education is a set of knowledge in the field of finance that is necessary in making short-term and long-term financial decisions for the population. Adequate financial involvement of the population in the financial system as a basic starting point for social participation is gaining more importance. However, financial exclusion can be defined as the gap between the needs and the demand of certain social groups to offer basic financial services to credit institutions. It addresses the problem of individual participation in the financial sector through difficulties in obtaining and using financial services. The reasons for complete or increased financial exclusion of the population can be sought in their marginal participation in the financial system due to lack of personal income, insufficient knowledge of financial laws, poor education in the personal finance segment and individuals' attitudes towards personal finances.
The aim of this paper is to research, collect and analyze relevant information on the financial potential of the population in Eastern Croatia, understanding their status in the financial system, and their relationship to personal finance, which substantially reflects the level of their financial education. Accordingly, the author presents the results of research related to financial education of the population and its impact on the management of personal finances using the survey method, comparative, analytical and synthetic method. The expected result of the research will be reflected in the segment of establishing the correlation between financial education and the management of personal finances of the population in the territory of Eastern Croatia for individual variables from the questionnaire.

Key words*: financial education, personal finance, financial management, Eastern Croatia.*

1. Introduction

Personal finance management is becoming more and more demanding and complex nowadays. Whether it's settling your current obligations, savings or investing to make money, use a financial product or service, have the knowledge and use your financial management skills are of great importance to each individual. A number of decisions are made on a daily basis related to financial management without considering these decisions in the context of financial literacy. Some of these decisions may not necessarily have a particular impact on the individual (eg., determining total income for the usual daily purchases of certain groceries or things, etc.), but some bring with them commitments that can significantly and in a long-term define the quality of life (e.g., long-term loans, determining retirement benefits, etc.). It is also necessary to mention life insurance contracts here. „One of the most widespread forms of insurance in the world is life insurance, and the most significant place occupy a form of insurance that combines

very important things today - insurance and savings. Savings are the basis for the future, while insurance has long become an indispensable part of life and represents a guarantee for a carefree future" (Vretenar Cobović, Cobović, Vujčić, 2018, 416). For this reason, having adequate financial literacy of the population is of great importance in order to make rational and timely decisions that will help in coping with everyday life issues related to the formation of the total household budget, savings, investments etc.

2. Literature review

In the scientific and professional literature, the term financial literacy is relatively "new", since most articles have only been published in the last ten to fifteen years. Different databases and national or international surveys are used for the research, and most of the results have shown that financial literacy is important for all countries, regardless of their development. But there are some studies and authors who have dealt with financial literacy before. Thus, the authors (Volpe, Chen, Pavlicko, 1996; Chen, Volpe, 1998; Hilgert, Hogarth, Beverley, 2003) used a performance test to assess financial literacy, and their measure was based on the percentages of correct responses in the test. The application of factor analysis on multiple choice items was used by individual authors (Lusardi, Mitchell, 2007; Rooji, Lusardi, Alessie, 2007), taking into account basic and sophisticated financial literacy.

On the other hand, the author (Huston, 2010) points out some shortcomings in the assessed measures related to the lack of definition of financial literacy and the distinction between financial knowledge and education. In addition, the author notes that a small number of survey questions may be a disadvantage when deciding whether respondents are financially literate.

More recent research related to this topic concerned the analysis of financial literacy between countries, the analysis of certain groups of the population (those less involved in the financial system, the analysis of financial literacy by risk and risk diversification, etc.).

According to research by the authors (Lusardi, Mitchell, 2011), the majority of the population in the developed part of the world is not familiar with the most basic economic concepts needed to make savings and investment decisions. The authors found low financial literacy in the US population, and found that lower awareness was especially associated with lower income and lower education levels and was more prevalent in women. Furthermore, research has shown that measuring financial knowledge through a set of the same issues in different countries indicates a generally low level of financial literacy, regardless of the development of financial markets and how the pension system is organized in those countries.

A comparative analysis of financial literacy in fourteen countries (Atkinson, Messy, 2012) has shown that in several countries it is possible to apply the same set of questions on the basis of which simple financial literacy indicators are created. The results showed that there is considerable room for improvement in financial knowledge in each of the observed countries, even if they belong to the group of developed countries. Lower values for compound interest calculation are reported in all countries, and a lack of knowledge on risk diversification is noticeable. Men have higher levels of financial literacy than women. Survey results show that inequality in financial literacy is most likely influenced by lower education and lower household income.

With regard to international financial literacy, the authors (Atkinson, Messy, 2013) investigated financial inclusion in the financial system for target populations. Data analysis identifies groups that are financially excluded and explains why they have lower financial literacy. Although the focus of work is on recommendations for economic policy makers, this research is useful for analyzing data and from the perspective of exclusion.

In addition, the authors (Lusardi, Mitchell, 2014) have made a detailed review of research on the economic aspects of the importance of financial literacy. The survey summarizes the results

of the research and the comparison of financial literacy across countries with respect to socio-demographic variables such as gender, age, education, income, employment status, minority affiliation and place of residence. Examples of financial literacy assessments have been presented in countries with inflation experience as opposed to deflationary countries. An interesting difference also arises between the respondents' own assessment of financial literacy in relation to actual knowledge.

Research on financial literacy in relation to risk (Lusardi, 2015) focuses on the part of financial literacy that measures knowledge and behavior towards risk and risk diversification. An empirical assessment shows that financial literacy or understanding of risk has an impact on retirement planning and more careful savings. The author considers that part of knowledge and risk behavior is an extremely important part of financial literacy, because financial and austerity decisions are closely linked to risk management.

In line with previous research, the aim of this paper is to investigate and analyze the level of financial literacy of the population in Eastern Croatia, the knowledge of their status in the financial system and the relation to personal finance, which substantially reflects the level of their financial education.

In accordance to the subject of research and the goals set, the paper starts from the following hypotheses:

H1 The economic backwardness of Eastern Croatia in relation to the national average causes a lower degree of involvement of that population in the financial system.

H2 Despite the low income of the population in Eastern Croatia, the awareness of the concern for better management of personal finances is increasing daily.

3. The importance of financial education in Republic of Croatia- research methodology

„Financial education is a long-term process whose effects are often not immediately apparent, and financial literacy activities need to be continually pursued, with the aim of reaching as many age groups as possible"

(https://www.hanfa.hr/media/1459/fin-pismenost-bro%C5%A1ura.pdf, accessed 5 January 2020). In Croatia, due to the impact of the long-term economic crisis, the need for financial literacy is particularly pronounced. The economic development, prosperity and wealth of each country largely reflect the development of its regions and the financial strength of the population in the area. The uneven economic development is often conditioned and is the cause of many problems of the population, both locally and personally. These problems stem from the lack of financial revenues caused by the economic backwardness in Eastern Croatia by the national average. It is this fact that largely results in the population changing their attitude to finances to a certain extent and raising awareness of the need and necessity of a more rational and better relationship in managing their income and expenditures.

In addition, the importance of raising the level of financial literacy is also influenced by the development of the financial market, the expansion of the number of available financial products and services, the reform of the pension system, the development of technology, as well as the alignment of Croatian legislation with the acquis communautaire. These are all activities that point to the pronounced importance of financial education for the population, which significantly facilitates the lives of all citizens, especially those in Eastern Croatia whose economy lags far behind the national average.

The survey methodology is based on the survey method through an online survey questionnaire instrument. The survey was conducted in December 2019 and January 2020, on a representative sample of 394 respondents. The study was conducted in the area of Eastern Croatia, in particular in Brod-Posavina, Požega-Slavonia, Osijek-Baranja and Vukovar-Srijem counties. Involvement of the population and their status in the financial system, financial education and

attitude towards personal finances were investigated. The target group of the sample included employed and unemployed persons, the pensioners and students population. The questionnaire was structured in four parts. The first part of the survey questionnaire referred to basic sample data (gender, age, completed education, labor market status, residence). The second and the third part of the survey questionnaire referred to questions related to sources of financial income, their amount and type of open bank account, financial income management, as well as the present and future financial obligations and needs of the respondents. The fourth part of the survey questionnaire addressed questions regarding respondents' attitudes towards their personal finances.

Some of the questions in the survey questionnaire (eg. type of the account opened in the bank) during processing are grouped according to specific target groups in order to see if there are any differences in financial literacy between the analyzed groups.

Finally, the calculation of correlation values between financial education and management of respondents' personal finances for individual variables from the survey questionnaire is presented. More specifically, the relationship between the essential elements of the loan, which is important to the respondents, was examined. Pearson's correlation coefficient (r) was used to calculate correlation values.

In 1986, the famous English mathematician Karl Person first explained the correlation coefficient (Hauke, Kossowski, 2011). Pearson's correlation coefficient is used for interval scale variables that are linear. The linear relationship of the variables can be read from the dotted diagram and implies that the points follow and scatter around the direction. Sometimes the data may be interconnected but not in a linear relationship and it is then not possible to calculate the Pearson correlation coefficient (Dawson, Trapp, 2004).

Pearson's correlation coefficient is denoted by a lowercase letter (r) and can take values from -1 to +1. The value of the correlation coefficient from 0 to 1 is a positive correlation and indicates a consistent increase in the values of both groups of data. The value of the correlation coefficient from 0 to -1 indicates a negative correlation, that is, a consistent increase in the value of one variable and a decrease in the value of another variable.

When the correlation coefficient has a value of 0, then it indicates the absence of a linear relationship, which indicates that knowing the values of one variable cannot be inferred about the values of the other variable (Ažman, Frković, Bilić-Zulle, Petrovečki, 2006).

Statistica software package was used to process all obtained data.

4. Financial education of the population of Eastern Croatia and its impact on personal finance management - research results and discussion

Appropriate financial literacy and involvement in the financial system by an individual are gaining in importance. On the other hand, financial exclusion is in a disproportion between the needs and the individual's demand for basic financial services. It addresses the problem of individual or group participation in the financial system through difficulties in obtaining and using financial services. The reasons for complete or increased financial exclusion of the population can be sought due to lack of personal income or insufficient knowledge of financial laws and poor education in the personal finance segment. Accordingly, it can be concluded that „the individual's attitude to personal finances substantially reflects the level of his financial education" (Matić, Serdarušić, Vretenar Cobović, 2016, 488).

In the continuation, this paper presents the results of a research aimed are gathering of relevant information on the financial potential of the population in Eastern Croatia, in particular in Brod-Posavina, Pozega-Slavonia, Osijek-Baranja and Vukovar-Srijem counties.

The gender and age of the respondents are shown in Table 1.

Table 1: Gender and age

Gender &The age		Frequency	Percent	Cumulative Percent
Gender	Male	163	41.37	41.37
	Female	231	58.63	100
	Total	394	100	
The age	19 – 24 years	84	21.32	21.32
	25 – 35 years	121	30.71	52.03
	36 – 55 years	109	27.67	79.70
	56 – 65 years	45	11.42	91.12
	More than 65 years	35	8.88	100
	Total	394	100	

Source: author

In a total sample of 394 respondents, 58.63% were female and 41.37% were male. Of the total number of respondents, there were 17.26% more women than men. The age groups of the respondents were divided into five boundary classes.

Analyzing the sample, it can be concluded that the most common age of the respondents is 25 - 35 years (30.71%). Respondents are then 36 - 55 years old (27.67%) and 19 - 24 years old (21.32%). The fourth rank in the total sample is occupied by the respondents from 56 - 65 years of age (11,42%), while the smallest number of respondents is aged 65 and over (8.88%) (Table 1).

Table 2 shows the completed educational background of the respondents and their status in the labor market.

Table 2: Professional background and status in the labor market

Professional background& Labor market status		Frequency	Percent	Cumulative Percent
Professional backgroung	Primary school completed	13	3.30	3.30
	Completed secondary education	201	51.02	54.32
	Higher education / professional studies completed	79	20.05	74.37
	Graduate education completed	95	24.11	98.48
	Postgraduate study completed	6	1.52	100
	Total	394	100	
Labor market status	Employed	130	32.99	32.99
	Unemployed	95	24.11	57.10
	Student	111	28.18	85.28
	Pensioners	58	14.72	100
	Total	394	100	

Source: author

With regard to the level of education of the respondents, the majority of respondents have completed secondary education (51.02%), followed by respondents with a university degree or higher education, respectively. Based on the number of those surveyed, at least one has completed postgraduate studies (master's or doctoral degree - 1.52%). In terms of labor market status, the majority of those surveyed declared themselves employed (32.99%), followed by students (28.18%) and unemployed (24.11%). In the total sample, 14.72% of pensioners were surveyed (Table 2). In the Brod-Posavina County, 49.59% of the respondents have residency. In the total sample, the representation of other counties is as follows: Osijek-Baranja (21.33%), Vukovar-Srijem (15.01%), Požega-Slavonia (14.07%).

Within the questions regarding monthly income, the respondents answered questions regarding sources of income and their amount (Table 3) and the number and type of account opened with the bank (Table 4).

Table 3: Sources of revenue and respondent's monthly income (HRK)

Sources of income	Frequency	Percent	Mean	Median	Mode	Std. Deviation	Variance
Salary	130	32.99					
Pension	58	14.72					
Scholarship	39	9.90					
Salary / pension in household	131	33.25	2.635	2	4	1.481	1.806
Other	36	9.14					
Total	394	100					
Amount of revenue in HRK	**Frequency**	**Percent**	**Mean**	**Median**	**Mode**	**Std. Deviation**	**Variance**
to 1,000	56	14.21					
from 1,001 to 4,000	164	41.62					
from 4,001 to 7,000	115	29.19	2.280	2	2	1.436	1.628
from 7,001 to 10,000	47	11.93					
over 10,001	12	3.05					
Total	394	100					

Source: author

When asked about the sources of monthly income, the majority of respondents stated that their income is the salary or pensions in their household. Based on this, it can be concluded that these respondents are unemployed or are students who do not earn their own income. The second rank is occupied by respondents who earn income from self-employed work, while the third rank is made up with respondents whose basic income consists of a pension. Within the other category, respondents cited sources of income such as social assistance, based on which it could be concluded that they were unemployed. Considering the amount of realized income, the most surveyed earns income in the amount of HRK 1,001 to 4,000, which shows a significant arrearage of Eastern Croatia in relation to the average of the Republic of Croatia. They are followed by respondents with income from HRK 4,001 to HRK 7,000, and only then by respondents who earn monthly income that exceeds HRK 7,001 (Table 3).

Table 4: Type of account opened with a bank

Employed	Frequency	Percent	Mean	Median	Mode	Std. Deviation	Variance
Current account	36	27.69					
Giro account	10	7.69					
Current and giro account	75	57.69	2.112	2	3	1.088	1.258
No account	9	6.93					
Total	130	100					

Unemployed	Frequency	Percent	Mean	Median	Mode	Std. Deviation	Variance
Current account	40	42.11					
Giro account	5	5.26					
Current and giro account	15	15.79	2.225	2	1	1.336	1.661
No account	35	36.84					
Total	95	100					

Student	Frequency	Percent	Mean	Median	Mode	Std. Deviation	Variance
Current account	51	45.95					
Giro account	19	17.11					
Current and giro account	7	6.31	2.357	2	1	1.115	1.305
No account	34	30.63					
Total	111	100					

Retiree	Frequency	Percent	Mean	Median	Mode	Std. Deviation	Variance
Current account	45	77.59					
Giro account	3	5.17					
Current and giro account	2	3.45	2.669	2	1	1.478	1.618
No account	8	13.79					
Total	58	100					

Source: author

Analyzing the data in the table, it can be seen that, given the status of the labor market in the unemployed, students and pensioners most often use a current account opened with a particular bank. Most often, employees use both current and giro accounts. In addition, there are a considerable number of respondents who do not have an account with any bank (especially unemployed persons and students) and do not participate at all within the financial system. It is important to note that there are a number of employed persons and pensioners who also do not have an account with the bank, and it is assumed that they receive their pay or pension in cash - by hand (which is partly inconsistent with certain legal regulations). In addition, there are an extremely small number of those participating in the financial system with two bank accounts opened (both current and giro accounts), on the basis of which it can be concluded that the economic backwardness of Eastern Croatia also causes a slightly lower involvement of the population in the financial system (Table 4).

This hypothesis was also confirmed by the respondents' answers to the question whether they use multiple services of a particular bank. In the overall sample, most respondents use only one bank service (62.91%), followed by respondents who use two to three bank services (15.26%). Non-banking respondents account for 21.83% of the sample, which indicates a lower involvement of the population in Eastern Croatia in the financial system, partly due to lack of personal income and partly due to insufficient knowledge of financial laws and poor financial education.

In the context of questions related to current and future financial obligations, respondents answered questions about raised bank loans and the inability to meet day-to-day obligations (Table 5).

Table 5: Raised bank loan and inability to meet day-to-day liabilities

A bank loan	Frequency	Percent	Mean	Median	Mode	Std. Deviation	Variance
Yes	231	58.63					
No	163	41.37	2.887	2	1	0.578	0.338
Total	394	100					
The inability to meet obligations	**Frequency**	**Percent**	**Mean**	**Median**	**Mode**	**Std. Deviation**	**Variance**
On a daily basis	98	24.87					
Sometimes	155	39.34	2.314	2	2	0.726	0.538
Never	141	35.79					
Total	394	100					

Source: author

In the total sample, 58.63% of respondents have a bank loan. But despite the large number of people in charge, people who face the daily inability to meet their financial obligations are only ranked third. In terms of total number of respondents, the majority are those who sometimes find themselves unable to meet their financial obligations, while as many as 35.79% of respondents never have this problem (Table 5).

Considering the extremely low income generated by the population in Eastern Croatia and lower involvement within the financial system, it can be concluded that this part of the population still cares to some extent about its personal finances, since it settles its obligations on time and thus raises awareness of the need for better quality managing within your home budget. This hypothesis was also confirmed by the respondents' answers to the question whether they were prepared to borrow outside the banking system to settle their debts. In the total sample, only 11.25% of respondents are ready to borrow outside the banking system, while as many as 88.75% would not do so, thus showing care for personal finances and a certain level of financial education.

Table 6 shows the respondents' attitude towards personal finances.

Table 6: Attitude towards personal finances

Taking care of personal finances	Frequency	Percent	Mean	Median	Mode	Std. Deviation	Variance
On a daily basis	201	51.02					
Sometimes	138	35.03	2.556	2	1	0.660	0.408
Never	55	13.95					
Total	394	100					

Source: author

When asked about personal finance concerns, 51.02% of respondents stated that they care about their personal finances on a daily basis, which was expected in line with the results of the survey from the questions asked above. It is further encouraged by the fact that only 13.95% of respondents do not care about their personal finances at all, thus reaffirming the hypothesis that the population of Eastern Croatia is changing their attitude towards personal finances and raising awareness of the need and necessity for a more rational and better relationship in managing their income and expenditures (Table 6).

Table 7 shows the calculation of the correlation values between the financial education and the personal financial management of the respondents for the individual variables from the survey questionnaire. The relationship between the essential elements of borrowing a loan that are important to the respondents is examined more closely. Pearson's correlation coefficient (r) was used to calculate correlation values.

Table 7: Correlation research variables –importance of these elements in debit / preferences of the respondents

Importance	The amount of loan	The interest rate on the loan	Loan repayment period	Loan approval speed	Loan security instruments (collateral)	Loan approval fee	Currency clause	Method of loan repayment
The amount of loan	1	0.634*	0.431*	0.463*	**0.775***	0.357*	0.333*	0.511*
The interest rate on the loan	0.634*	1	**0.687***	0.607*	0.611*	0.506*	0.615*	0.467*
Loan repayment period	0.431*	**0.687***	1	0.594*	0.614*	0.512*	0.473*	0.522*
Loan approval speed	0.463*	0.607*	0.594*	1	0.567*	0.568*	0.433*	0.521*
Loan security instruments (collateral)	**0.775***	0.611*	0.614*	0.567*	1	0.411*	0.628*	0.362*
Loan approval Fee	0.357*	0.506*	0.512*	0.568*	0.411*	1	0.441*	0.466*
Currency clause	0.333*	0.615*	0.473*	0.433*	0.628*	0.441*	1	0.567*
Method of loan repayment	0.511*	0.467*	0.522*	0.521*	0.362*	0.466*	0.567*	1

*Correlation is significant at the 0.01 level (2-tailed)
$0 < |r| < 0.25$ - weak correlation between variables
$0.25 < |r| < 0.64$ - medium correlation between variables
$0.64 < |r| < 1$ - strong correlation between variables
Source: author

Considering the calculation of correlation values for important elements of a loan when borrowing of the respondents, it can be concluded that the obtained results indicate that there is a positive correlation between all the investigated variables from the survey questionnaire. There is a strong correlation between the importance of the interest rate and the importance of the loan repayment term and the importance of the loan security instruments and the importance of the loan amount, as indicated by the correlation coefficients of 0.677 and 0.775, respectively. Among all other combinations of variables studied, there is an intermediate level of correlation. The results obtained in this way indicate a positive link between financial education and the management of the personal finances of the respondents, which confirms the hypothesis that, despite low income, the population of Eastern Croatia cares to some extent about their personal finances and is able to make rational decisions regarding debt (Table 7).

Based on the results of the research, it is possible to notice some similarities, but also differences in comparison with previous studies published by previously cited authors. In line with previous research, most of the population in the developed part of the world is not aware of the most basic economic concepts necessary to make decisions about savings and investments. The level of financial literacy in the Republic of Croatia is certainly not satisfactory, but even so, the

population in its underdeveloped parts, such as Eastern Croatia (which has been the subject of research), is changing its awareness of the need for additional financial education. In addition, part of the population shows relatively good financial literacy on debt, which is certainly encouraging.

According to the results of the research, it is possible to notice that the poorer information on financial education is especially related to persons with lower income and lower level of education, which has been presented in the previous studies.

Ultimately, it is possible to conclude that there is a need to improve financial knowledge in the territory of the Republic of Croatia, but also in other parts of the European Union and the world, and even the most developed ones.

5. Conclusion

Financial education of the population is extremely important when making financial decisions, whether it is the choice of financial services (savings, lending, investing) or meeting the daily financial obligations that require the allocation of a home budget. The existence of an increasing number of different financial products and services of credit institutions has led to the need to know the financial principles and increase of financial literacy. For this reason, choosing a rational and economically acceptable financial product or service has a long-term impact on an individual's life and financial situation.

The results of the research on the impact of financial education on the management of personal finances of the population in Eastern Croatia indicate the following: the amount of realized monthly income of the population, shows a significant lag of Eastern Croatia in relation to the average in the Republic of Croatia. Given the status of the unemployed in the labor market, students and pensioners most often use a current account opened with a particular bank, while employees most often use both a current and a giro account. In addition, there are a significant number of respondents who do not have a single bank account and do not participate at all within the financial system. There are an extremely small number of those who participate in the financial system using two to three bank services, which leads to the conclusion that the economic backwardness of Eastern Croatia also causes a somewhat lower involvement of the population in the financial system partly due to lack of personal income and partly due to insufficient knowledge of financial laws and poorer financial education. Despite low household incomes and lower involvement within the financial system, respondents are meeting their financial obligations on time, thereby raising awareness of the need for better management within the home budget. A large number of respondents are able to make rational decisions regarding borrowing, as evidenced by the calculation of correlation values for important elements of borrowing, thus showing some financial literacy. A large number of respondents take care of their personal finances on a daily basis, on the basis of which it can be concluded that there is a positive link between financial education and personal finance management, although education in terms of involvement in the financial system will be necessary for this part of the population in order to reduce the trend of lagging behind the average in the Republic of Croatia.

According to the conclusions reached, it is very important to note that it will be necessary to analyze the level of financial literacy in other regions in the Republic of Croatia and to compare them with the national average in the framework of future research. In addition, future research may focus on a more detailed analysis of the financial literacy of a certain part of the population (the so-called marginal population - especially students, the unemployed, social assistance beneficiaries, etc.) and compare it with EU Member States and the rest of the world.

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THE IMPACT OF ARTIFICIAL INTELLIGENCE ON THE ACCOUNTING PROCESS

ABSTRACT

The impact of information technology on the company's business is unquestionable. The idea of implementing new digital tools is increasingly present as a response to the rapidly growing development of globalization, harmonization, and the ever-present need for rationalization of time and financial resources. In the next few years, artificial intelligence will affect our society, business operations as well as the individual lives of all of us. The idea of applying artificial intelligence in accounting and auditing evolved three decades ago. From that period, many changes have been made. Research and theory, as well as practice, confirm that there is a space for implementing artificial intelligence in the accounting process. There are still lots of open questions regarding the application of artificial intelligence in business, the issue of regulatory framework development, different legal and ethical issues in the context of accountability for the resulting errors. Paper aims to explore how artificial intelligence affects the accounting process as well as how the changes that the accounting profession will face soon affect the work of accountants, how accountants accept them, and how did they adapt to changes. The paper uses secondary data and provides an overview of existing research on the application of artificial intelligence in accounting. The main goal is to present how artificial intelligence can be used to increase the business efficiency of accountants and consequently deliver more value to the company. However, increasing accountants' efficiency would not be based on staff reductions, but rather on increasing their day-to-day, operational efficiency. Finally, research findings helped us validate the thesis that the robotization of the accounting process can replace simple, repetitive accounting operations while the most important role of the accountants remained the same, being the most important advisor to the management in making business decisions and managing a business.

Key words: *Artificial Intelligence, Accounting Process, Accounting Profession, New Trends.*

1. Introduction

The development of information technology significantly affects all business spheres. The idea of implementing new digital tools is increasingly present as a response to the rapidly growing development of globalization, harmonization, and the ever-present need for rationalization of time and financial resources. It is often emphasized that the advancement of technology has played a leading role in creating a computerized accounting system, which is commonly adopted by business enterprises at present (Lim, 2013, 93). On the other side, "rapidly changing technological, economic and thinking means professions are forced to change according to the world order, and professional organizations are looking for new approach models" (Tekbas, 2018). It is undoubted that computerization and new developments in the field of robotics improve business processes, enabling them to run faster and more efficiently. Furthermore, their implementation is expected to increase business efficiency, reduce costs, and make better use of all available resources.

In the next few years, artificial intelligence will affect business operations as well as the whole society. According to Su (2018), artificial intelligence affects all sectors of the economy that generate lots of data (big data), from tech to finance, communications, energy, mobility or manufacturing. Chui, Manyika and Miremadi (2016) claim that it is more technically feasible to automate predictable physical activities than unpredictable ones. Moreover, they consider sectors such as manufacturing, food service and accommodation, and retailing, to have the highest potential for automation based on technical considerations. However, the same authors find that the "hardest activities to automate with currently available technologies are those that involve managing and developing people or that apply expertise to decision making, planning, or creative work". The idea of applying artificial intelligence in accounting and auditing is not a new trend (O'Leary & O'Keefe, 1997, 36; Grey et al., 2014, 423; Sutton et al., 2016, 60; Brands & Smith, 2016, 70). Actually, it evolved three decades ago. From that period, many changes have been made. Although there are some findings that the accounting information system (AIS) research on artificial intelligence has waned over the last decade (Grey et al., 2014), some new researches on the "usability and use of artificial intelligence techniques in accounting domain remains vibrant and holds a great potential for researchers to take a leadership role in advancing the filed" (Sutton et al., 2016, 60). Therefore, it can be stated that research and theory as well as practice confirm that there is a room for implementing artificial intelligence in the accounting process (Stancheva-Todorova, 2018; ICAEW, 2018, Faccia et al., 2019; Shi, 2019).

The main goal of the paper is to present how artificial intelligence can be used to increase the business efficiency of accountants, by increasing their operational efficiency. Finally, based on secondary data paper seeks to validate the thesis that the robotization of accounting process can replace simple, repetitive accounting operations while the most important role of the accountants remains the same, being the most important advisor to the management in making business decisions and managing a business.

2. New trends in information technology and its impact on accounting information systems

It is well known fact that accounting information systems (AIS) are in charge of collecting and processing transaction data and communicating primarily financial information to decision makers on time and in proper form (Kimmel et al., 2011, 102; Mamić Sačer & Žager, 2008, 21; Žager & Gulin, 2006, 394). There have been many changes in the field of technology and

technological advancements that have a significant impact on the business in general as well as on the AIS. The first phase of accounting systems development was related to manual data processing. It has been a while since accounting information systems „moved out of the arena of paper journals and ledgers and into computer-based formats with the advent of computers" (O'Leary, 1991, 143). With the use of computers, accountants are relieved of routine tasks, records become more accurate, and the role of the accountant is slowly changing. In today's business environment, the dominant role in data processing is played by information and communication technology, which becomes an imperative today, but also a prerequisite for the development of enterprises in the future. As a result of the application of new technologies, the outputs of the accounting system change. Today, accountants use advanced new technologies that make it possible to obtain many other reports in the form of forecasts and analyses. Modern accounting also imply the use of intelligent accounting support systems. This claim is also supported by the results of the ACCA survey where 55 % of respondents expect the development of intelligent automated accounting systems to have the greatest impact on the accounting profession over the next 3 to 10 years (ACCA, 2016, 11). Figure 1 summarizes new trends in information technology.

Figure 1: Technology trends
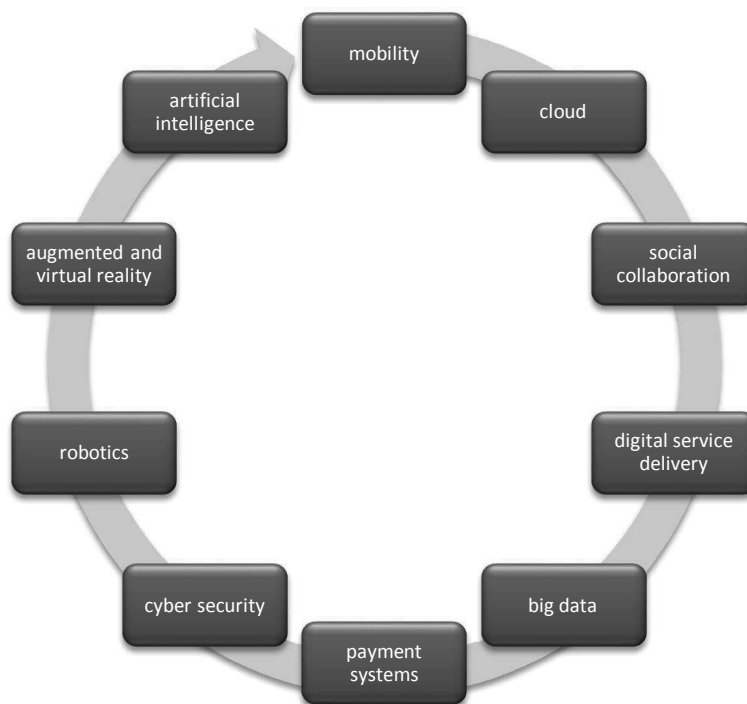
Source: ACCA, 2013, 3

Additionally, table 1 lists some of the new technology tools and instruments that significantly influence and advance the accounting profession.

Table 1: New technologies that significantly affect accounting data processing and reporting

Cloud Computing	Cloud computing ads business value to enterprises. The cloud-based accounting tools enable accountants to access financial data anytime and anywhere. These tools further help accounting firms to facilitate constant collaboration between accountants and clients.
Blockchain	Many businesses already leverage Blockchain to record their financial transactions in an open, digital and secured ledger. In addition to keeping the

	financial transactions transparent and auditable, blockchain further makes the transaction records accessible to authorized users anytime and anywhere. The accounting firms may even go for custom software applications to use blockchain for a number of purposes – accelerate fund transfer and financial transactions, record financial transactions accurately, reduce account receivables and payables, and facilitate auditing.
Artificial Intelligence (AI)	AI makes it easier for accountants to accelerate and simplify various data-related tasks – bookkeeping and transaction coding. Currently, AI can be useful for classifying each accounting transaction from the point of view of financial statements and tax returns. AI technologies even have the potential to transform accounting firms completely.
Machine Learning	As a subfield of AI, machine learning detects pattern by analysing a large amount of data using algorithms and statistics. Accounting businesses must leverage machine learning to simplify and automate categorization and validation tasks. For instance, an accountant can use machine learning techniques to check if an additional expense is relevant or not by analysing a large set of expenses. Many accountants believe that AI and machine learning will automate their tasks completely. However, accounting businesses can leverage these disruptive technologies to make their accountants more productive.
Robotic Software	Many accounting firms are currently using robotic software to reduce operational costs by automating repetitive tasks. A report published by Accenture suggests that robotic software will help accounting firms to automate 40% of transactional accounting processes by 2020. However, the use cases of the robotic software will differ across accounting businesses. Most accounting firms will need customized robotic software to perform a variety of transactions – entering financial data, saving the financial data in relevant formats, generating reports and performing tax operations – quickly and accurately.
eXtensible Business Reporting Language (XBRL)	XBRL is a language used for electronic communication of business and financial data. It enables business to generate required reporting information directly from their financial data. XBRL is also a consistent tool useful for comparability and overall business evaluation.
Electronic invoicing system (EIS)	EIS allows the contracted suppliers to submit invoices electronically and follow-up financial dues, purchase orders, contracts, and award notifications via electronic alerts. E-invoicing methods are used by trading partners, such as customers and suppliers, to share each transaction trough electronic documents including invoices, purchase orders, debit notes, credit notes, payment terms and instructions, and remittance slips. The transfer and exchange of business information has always taken place on the IT platform called Electronic Data Interchange system. All electronic invoices need to be signed with an electronic signature.

Source: Kadian (2018); Faccia et al. (2019, 32)

The application of new technologies has affected many professions and it has revolutionized the development of the accounting profession too. "During the last 50 years, technology and automation have fuelled innovation, efficiency improvements, and cost reductions in the accounting and finance profession" (Brands & Smith, 2016, 70). Some authors point out that it is „unquestionable fact that the language of the next generation of accountancy professionals will be digitization and technology. The Fourth Industrial Revolution, triggered by digital technologies, is now pointing to the transformation of the economy and society, depending on developments in artificial intelligence, robotics, autonomous devices, 3D printers, nanotechnology and other areas of science" (Tekbas, 2018). Faccia et al. (2019) were able to demonstrate that it is possible to create a model that can integrate all the information

technologies that are currently available (big data, blockchain, cloud computing, artificial intelligence, XBRL language, electronic billing, digital signature) and thus offered a breakthrough to accounting and finance big data management.

Today, the main question that arises is whether the accounting profession is ready to accept the challenges posed by digitization and the application of new technologies that will surely affect their way of working and organizing their accounting function. „Thanks to computer systems, the workload of accountants has been reduced; complicated and difficult accounting transactions made using traditional methods are made easily and quickly" (Tekbas, 2018). Besides obvious advantages, the application of new technologies is also a challenge for accountants. According to Accountancy Europe's survey biggest challenges when dealing with technology issues are raising awareness among members (81 %), helping them to adopt technology (66 %), understanding potential impact of the technology (56 %), legal framework (44 %) and understanding the technology itself (44 %) (Accountancy Europe, 2018, 5).

3. Impact of artificial intelligence on the automation of the accounting process

In recent times, it can often be heard that artificial intelligence is a challenge to the future of the accounting profession. "Artificial intelligence has been an aspiration of computer scientists since 1950s and it has seen tremendous progress in recent years" (ICAEW, 2018, 2). Namely, artificial intelligence, in a more narrow sense, can be described as "the ability of machines to exhibit human-like capabilities in areas such as thinking, understanding, reasoning, learning or perception" (ACCA, 2019,12). Shaffer et al. (2020) define artificial intelligence as "synthetic intelligence or computer system intelligence that simulates intellectual functions". Some authors "make a distinction between AI and augmented intelligence, which can be used to refer to the elements above, but excluding the decision making, i.e. where a person relies on the outputs of such a process to make the final decision" (ACCA, 2019, 12). The development of artificial intelligence offers a whole range of opportunities and benefits for enterprises. Shi (2019, 971) claims that AI "plays an important role in improving business efficiency, reducing work errors, preventing and controlling enterprise risks, improving enterprise competitiveness and improving human resource efficiency". Although the term artificial intelligence is often identified with the concept of human intelligence, it should be noted that this is not the same. It is certainly true that new technologies allow different accounting processes to be performed more efficiently, but it would be pretentious to claim that artificial intelligence can offer full contextual understanding and integrated thinking as characteristics that exclusively excel to humans (ACCA, 2019, 7). "Professional accountants have an opportunity to develop a core understanding of emerging technologies, while continually building their interpretative, contextual and relationship-led skills" (ACCA, 2019, 7). They should embrace the challenges ahead and accept the fact that the traditional understanding of accounting function changes.

It is well known that the accounting process consists of three phases: input, processing, and output. Digitization of the accounting process had its first influence on the phase of processing, in terms of introducing the first computers that have accelerated the data entry process and reduced the possibility of formal errors. Nowadays, accounting data processing is inconceivable without AIS. The whole system is getting on acceleration daily and manual data entry is no longer applicable neither cost-effective. On the other hand, although computerization and digitization penetrate all pores of the accounting process, whether or not automation will in fact become a reality is determined by five factors according to Thompson (2016):

1. *"Technical feasibility* – some activities performed by accountants are less susceptible, while others are highly susceptible, to automation.

2. *Cost of developing and deploying the hardware and software for automation* – it would seem the costs, such as that of data analytics and cloud computing, have fallen sharply in the past few years. This low to modest cost points to increased risk of automation.
3. *Cost of labour and related supply-and-demand dynamics* – many jurisdictions are reporting a talent war with qualified staff in short supply. This seems to have triggered significant increases in the salaries of professional accountants. This high cost of labour and a shortage of talent points to the increased risk of automation.
4. *Benefits beyond labour substitution* – it's easy to see that automation might lead to higher levels of output, better quality, and fewer errors, especially in data collection and processing. In the case of an audit, one can see how technology enables the testing, quickly and accurately, of entire data populations rather than just samples. These substantial benefits of automation contribute towards a high chance of automation.
5. *Regulatory and social-acceptance issues* – it seems likely that employers or clients will be accepting of a robot or machine replacing some of the functions of an accountant, but perhaps less accepting where the situation demands the exercise of professional judgment or scepticism, such as an ethical dilemma. Regulators might also prefer to see human intervention than reliance on a machine. The net impact of these issues might be neutral as far as their impact on whether automation is likely."

Some benefits of accounting automation according to Brands & Smith (2016, 70) are (1) productivity improvements and cost reductions by automating repetitive tasks and reducing human error, (2) faster process cycle time, allowing more timely information with less effort, (3) improvements in internal control through consistent and verifiable application of business rules and processes. When it comes to the AIS definition and explanation, there are many different approaches, but "it is hard to describe AIS in terms that would give it an identity independent of its underlying industry, in this case, that vast driver of modern economies, high tech in the form of IT, electronic communications, ERP systems, tagging technologies, and so on" (Alles et al., 2008: 203). "The AIS is composed of three major subsystems:
(1) the transaction processing system (TPS), which supports daily business operations with numerous reports, documents, and messages for users throughout the organization;
(2) the general ledger/financial reporting system (GL/FRS), which produces the traditional financial statements, such as the income statement, balance sheet, statement of cash flows, tax returns, and other reports required by law; and
(3) management report system (MRS), which provides internal management with special-purpose financial reports and information needed for decision making such as budget, variance reports, and responsibility reports" (Hall, 2012, 7).

The enterprise size and its organizational structure are the two main characteristics of an enterprise that determine the choice of AIS. For smaller enterprises, it is suitable that the AIS is (1) user-friendly, which means easy to use, (2) functional, which means that meets all the requirements for external reporting according to the law, and (3) affordable, which means at a reasonable initial price and further maintaining costs. AISs, which meet all requirements from the aspect of tax requirements, as well as annual financial statements preparation, are satisfying for smaller enterprises. They seek simple but effective AISs, at the same time, which are sufficient for and meet all bookkeeping tasks. When it comes to larger enterprises, they seek advanced, integrated, custom-designed and controlled AISs connected with all other enterprise functions. These systems are to be called Enterprise Resource Planning (ERP) systems. They integrate all enterprise functions with the AIS, which is a part of ERP, resulting in automatic data sharing, timely information, overall review of an organization's data and information, customized reports, etc. ERP systems are usually expensive and smaller enterprises cannot

afford them, but there are various AISs designed for their needs. Nowadays, there is a large spectrum of various AISs and ERPs and enterprises can choose the one most suitable for them. Ultimately, most of them have replaced a bunch of manual work of accountants, but accountants are still those who set the posting parameters, give orders to the system, and control the overall processing phase. Without the accountant who has a wide knowledge of accounting, but also of law, taxation, advisory, and IT as well, AIS would not meet its purpose.

After the processing phase, the digitization of the accounting process has influenced its final phase – the output, which means the preparation of financial statements and their presentation. A reason for that is quite simple. After the implementation of AIS with its primary function, which is posting of bookkeeping transactions, it was logical to upgrade that system by enabling automated preparation of financial statements. Based on the data entered into the AIS and on set parameters, financial statements are to be prepared automatically. Although it is usually interpreted that the preparation of financial statements is a fully automated process and financial statements are compiled with a click of a mouse, it is very important that the accountant reviews prepared reports and compares them with the gross balance sheet. That is very important final control because sometimes there are e.g. unusual bookkeeping transactions that cannot be booked automatically for the tax and reporting purposes at the same time, primarily in AIS intended for smaller enterprises. In cases like this, but also in all others, the accountant has a final assessment on reports' accuracy before their submission to the management.

The presentation of financial statements implies their publication and making them available to various stakeholders. Encoding the records of financial statements in a format that makes them readable to humans and computers is certainly a turning point in the field of financial reporting. Development of the eXtensible Business Reporting Language (XBRL) is more than a good example of meeting all the three comparative advantages proposed by Alles et al. (2008); knowledge transfer, skill application, and long term narrative research. "XBRL is the international standard for digital reporting of financial, performance, risk and compliance information, although it is also used for many other types of reporting" (XBRL International, 2020b). Even though the XBRL may not be perceived as a mean of artificial intelligence nowadays, it has certainly been a milestone in terms of business (financial and non-financial) reporting. "XBRL provides a language in which reporting terms can be authoritatively defined … and used to uniquely represent the contents of financial statements or other kinds of compliance, performance and business reports (XBRL International, 2020b).

XBRL was not the first reporting language, however. The forerunner of XBRL was the Extensible Markup Language (XML). Hoffmann et al. (1999, 71) started their article by point out the following sentences: "Imagine you could give another dimension to your tax records, audit work-papers, payroll system, financial statements – anything CPAs work with. Imagine you could give each electronic record, each unit of information in your office, a label, or tag, that would explain what the data mean to whoever wanted to use that information – a person or a computer program". "The Extensible Markup Language (XML) was created to provide increased data accessibility to large numbers of users, especially in Web browser format – without having to re-key the information" (Pinsker & Li, 2008, 47). While the XML is intended for a wide variety of data presentation on the Web, the XBRL is XML derivative more focused on financial reporting. "XBRL, or eXtensible Business Reporting Language, is an XML standard for tagging business and financial reports to increase the transparency and accessibility of business information by using a uniform format" (FASB, 2020). "Often termed "bar codes for reporting", XBRL makes reporting more accurate and more efficient. It allows unique tags to be associated with reported facts, allowing:

- people publishing reports to do so with confidence that the information contained in them can be consumed and analysed accurately
- people consuming reports to test them against a set of business and logical rules, in order to capture and avoid mistakes at their source
- people using the information to do so in the way that best suits their needs, including by using different languages, alternative currencies and in their preferred style
- people consuming the information to do so confident that the data provided to them conform to a set of sophisticated pre-defined definitions" (XBRL International, 2020b).

XBRL has improved financial and non-financial reporting in several ways. There is no more need for re-entering or copying data, which increases their accuracy and provides more time to stakeholders for analysis. XBRL is a free licenced format for business reporting with already tagged specific financial statements positions approved by regulatory bodies from different jurisdictions, which simplifies its application and increases comparability between companies, especially those from the same taxonomy. Information from financial and non-financial statements prepared using the XBRL standard can be easily interchanged between various AISs of various companies, which increases transparency and accuracy while saving time and costs.

Many countries permit or require reporting in line with XBRL. "There are about 140 regulators around the world in 70 countries that use XBRL format. It's mandated in just over 100 of those, and there are tens of millions of companies that file in XBRL around the world" (Turner, in Cohn, 2017). XBRL International has an affiliation in Europe as well, among several European countries' XBRL affiliations, called XBRL Europe. XBRL Europe has been set up to foster European XBRL efforts, to implement common XBRL projects in Europe and to liaise with European Authorities and organisations (XBRL Europe, 2020). IFRS Foundation also has its taxonomy called IFRS Taxonomy in which "the XBRL is used to represent and deliver the annual IFRS Taxonomy content" (IFRS Foundation, 2020). In 2004, the European Union issued the Directive 2004/109/EC of the European Parliament and of the Council of 15 December 2004 on the harmonisation of transparency requirements in relation to information about issuers whose securities are admitted to trading on a regulated market and amending Directive 2001/34/EC (Directive 2004/109/EC). "This Directive aims to upgrade the current transparency requirements for security issuers and investors acquiring or disposing of major holdings in issuers whose shares are admitted to trading on a regulated market" (Directive 2004/109/EC). The Directive was revised in 2013 by issuing the Directive 2013/50/EU of the European Parliament and of the Council of 22 October 2013. Having in mind that "a harmonised electronic format for reporting would be very beneficial for issuers, investors and competent authorities, since it would make reporting easier and facilitate accessibility, analysis and comparability of annual financial reports" (Directive 2013/50/EU), European Securities and Market Authority (ESMA) was given a task to "develop draft technical regulatory standards, for adoption by the Commission, to specify the electronic reporting format, with due reference to current and future technological options, such as eXtensible Business Reporting Language (XBRL)" (Directive 2013/50/EU). ESMA has already developed "the European Single Electronic Format (ESEF) in which issuers on EU regulated markets shall prepare their annual financial reports from 1 January 2020" (ESMA, 2020). "The taxonomy to be used for ESEF is based on the IFRS Taxonomy, prepared and annually updated by the IFRS Foundation, and provides issuers with a hierarchical structure to be used to classify financial information" (ESMA, 2020). The aim of the Regulatory Technical Standard (RTS) on ESEF is to ensure the investors can reach the timely and relevant information based on which they could decide about their investment. In that context, ESMA was also required to establish "centralized point of entry for the public to access statutory information of listed companies", so-called the European

Electronic Access Point (EEAP), but they "paused work on the project in January 2018" (XBRL International, 2020a).

Since its development, each year XBRL covers more jurisdictions that companies report using the world-known business language. It makes investors able to access the transparent, accurate, and timely information essential for their decisions on investments. Given the examples, it can be concluded that the XBRL is reporting language of the future.

Finally, the last phase being digitalized is the input phase. Although it may not seem to be logical that the first accounting phase is to be digitalized as the last one, there are the most complicated scenarios to be automated. The same bookkeeping transactions are not always posted equally in each enterprise. It depends on the accounting standards used, belonging industry, jurisdiction rules, company organization, AIS parameters, and many more. By introducing the barcode printed on the bookkeeping documents, posting by scanning the barcode has been enabled. The 2D and QR barcodes consist of data that enable fast and accurate posting replacing the manual entering of data. The main problem still arising is setting the parameters for posting in AIS and connecting the input data contained in the barcodes between different AISs. Furthermore, from the very beginning, the posting phase has been requiring a credible document as the basis for posting. Those documents have had to be printed on papers, they have had to be materialized for the purpose of the archive, among all other purposes. Nowadays, there is a great trend on transferring from paper to electronic documents. One of the reasons lays in sustainable development and eco-friendly principles. That trend has enabled additional digitization of the entry phase of the accounting process. By adopting e-documents, they are to be automatically recorded in AIS and archived in the storage. Unfortunately, these processes are still not so convenient and reliable for most AISs and accountants have to check each entry to be sure that the document is well recorded in the AIS. Nonetheless, all phases of the accounting process accelerate and will be completely digitalized soon, but the role of accountant will always stay crucial in terms of setting the parameters and control of the output.

4. Implementing new technologies and its impact on the accounting process – the case of Croatia

The accounting process is known to consist of three phases: input, processing and output. This chapter focuses on the comparison of past and present state and outlines overview of future perspectives in implementing new technologies and its impact on the accounting process for enterprises operating in the Republic of Croatia (Table 2).

Table 2: Technology impact on the development of the accounting process - the case of Croatia

ACCOUNTING PROCESS	Past situation	Current state	Future perspectives
Input *Data collection on business events - accounting documents*	• materialized documents	• materialized and electronic documents • bar code scanning on invoices • e-invoices for public procurement purposes • introducing paperless accounting	• artificial intelligence – robotic process automation and machine learning • full paperless accounting
Processing *Business event analysis*	• manual data processing	• computer data processing • accounting software • cloud accounting software	• artificial intelligence – machine learning

ACCOUNTING PROCESS	Past situation	Current state	Future perspectives
Bookkeeping Drawing up a trial balance and financial statements			• integration and automation of business processes within the company and with business partners
Output *Financial statements and tax reports publication*	• manual preparation and reporting practices • annual financial statements in paper form • tax reports in paper form	• both manual and on-line reporting practices • annual financial statements can be submitted personally in paper form/excel file format (on the media for electronic storage) or electronically using digital certificates • tax reports can be filed manually for micro and small enterprises while medium-sized and large ones, as well as enterprises that are in VAT system, need to file tax return electronically (e-Porezna) • introducing paperless accounting	• XBRL reporting • full paperless accounting

Although the *collection of bookkeeping documents* and their *entry* in accounting records is the first stage of the accounting process in the context of digitization, there is still room for improvement in this area, not only at the level of Croatia but beyond. Specifically, this phase assumes significant costs of establishing an integrated solution for automatic posting of invoices, processing in the business books and preparing financial statements. Although Croatia is still far from fully automating the input and output phases, certain shifts are already visible. Until now, it was not possible to post the invoice into the accounting program without manual input. Today, this process is greatly accelerated with the presentation of two-dimensional code on the invoices, and soon (from 2021), every fiscal invoice will have to have a QR code as well. On the other hand, although many activities have been carried out continuously since 2012 to increase the use of electronic documents in public administration and the corporate sector, 2019 is considered a turning point. Namely, since July 2019, the Law on Electronic Issuance of e-invoices in Public Procurement introduced the obligation to receive and issue e-invoices in public procurement procedures. Although there is currently no obligation to use e-accounts in the corporate sector, it is assumed that this is one of the first steps towards a complete transition to e-business in Croatia. What does the future bring us? There is certainly room for widespread use of robotic process automation (RPA) in national accounting practice. According to PwC (2019), there are many advantages of RPA and the most valuable is the ability to automate transactional process steps which increases process quality by reducing errors. It means that processes can be performed independently 24/7 which is a step towards real-time accounting. RPA is minimally invasive because it does not require complex integration into existing IT architectures. Finally, added value can be seen in increased employee satisfaction (PwC, 2019).

Accountants have been using new technological advancements for many years to increase their efficiency. Croatian accountants are no exception to this trend. Today, in the *data processing phase*, a trend of moving from accounting systems installed locally on enterprise computers to network-based accounting systems installed on a remote server is present. In other words, the deployment of cloud-based business solutions is growing significantly, and accounting can be done online today. The most common reasons for the introduction of cloud accounting may be affordability, flexibility, data processing speed, and expected lower support costs and ease of software upgrades. Accounting in the cloud is still in its initial stage in Croatian companies. The causes of such a state can be found in fear for the safety and availability of data as well as insufficient knowledge of this technology (Novak & Zvonar, 2015, 25). Given the many benefits that this kind of business provides, it is expected that enterprises will fully embrace cloud business in the near future. Moreover, it can be assumed that in the future, further emphasis will be placed on the integration and automation of business processes within the enterprise as well as between business partners, with the increasing use of machine learning as a form of artificial intelligence.

In the *output phase* of the accounting process, the final products of accounting are financial and other tax statements. There have been significant changes in this area in recent years. In fact, until recently, the financial statements were prepared by using the computer support, but then they would be listed and submitted for public disclosure in paper form or, optionally, in excel format, submitted on some storage medium. Today, entrepreneurs in Croatia submit financial statements dominantly through the RGFI (Register of Annual Financial Statements) web application using adequate digital certificates. In the past, tax returns and other tax reports were submitted predominantly in paper form. Today, all companies that are in the VAT system and belong to the category of medium or large companies, under the Accounting act (78/15, 134/15, 120/16, 116/18), are required to submit tax reports electronically using the electronic service system - ePorezna. Significant changes are also expected in the area of financial reporting in the near future. It has already been stated that the Transparency Directive (2013/50/EU) introduces the mandatory application of XBRL formats in the financial reporting of listed companies. According to Kopun Group (2019), "this obligation will apply to approximately 5,300 listed companies in the European Union, of which in the Republic of Croatia this obligation applies to approximately 115 companies." Specifically, all listed companies will publish financial statements in the XBRL format starting from 2020. Thus, the first results of the successful implementation of XBRL in Croatian financial reporting practice will be visible in 2021. To sum up: finding of this research shows that some changes have been made, the basis for the widespread use of electronic business has been introduced, and it is expected to expand in the future. Finally, it should be emphasized that further digitization of the accounting process will significantly improve profession of accountants as they will become the most important support for management in day-to-day business and strategic management of the company.

5. Conclusion

The accounting process, known as input – processing – output, is today highly influenced by computerization and digitization. It is indisputable that artificial intelligence enhances the overall accounting process in terms of accuracy, simplification, timeliness, transparency, publication, exchange, and analysis of financial and non-financial information. Research findings provide an overview of the current state of using artificial intelligence in the accounting process and its impact on it. In this paper, artificial intelligence is primarily understood as its broader context where AI is viewed as a term, which is used to refer to new technologies that are expected to arrive in the future. The results of the research confirm that artificial intelligence

is a challenge to the future of the accounting profession. The insights presented in the paper lead us to conclude that new technologies are changing the traditional role of accountants. Specifically, automation of the accounting process shortens the time for entering documentation, processing data, and preparing financial statements. In addition, business process automation brings a whole range of additional benefits that enhance the competitiveness of a particular business by reducing costs, improving the accuracy and speed of a work process. Therefore, accountants should embrace the upcoming challenges, acquire new skills, and welcome new technologies as they can give them space to devote themselves to their most important role, advisory support to the management of a modern enterprise.

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LIFE SATISFACTION OF STUDENTS OF DIFFERENT STUDY PROGRAMMES AT THE FACULTY OF EDUCATION AS A POTENTIAL FACTOR OF DEVELOPMENT

ABSTRACT

The aim of the research was to establish the level of life satisfaction of the students of the Faculty of Education in Osijek and to determine whether there are any differences between the students at different study programmes (Class teacher, Preschool education, Kinesiology). The second aim was to investigate the relation between the level of physical activity and life satisfaction. The research participants were 250 students of the Faculty of Education. The students were asked to complete the Scale of life satisfaction (SZŽ) (Penezić, 2002) and the questionnaire about the amount of physical activity they were engaged in in their leisure time. The data for the scale of life satisfaction was obtained through a questionnaire containing 20 items, 17 of which relate to the assessment of general satisfaction, while the other three items were used for the assessment of situational satisfaction. The respondents replied to the questions by circling the appropriate number in the 5-point Likert scale and the total result was formed as the linear assessment combination.
In the questionnaire about the type and the amount of physical activity that students are engaged in in their leisure time, the respondents described the type of sport and the number of hours per week.
The obtained data were processed by the Statistical Package for Social Sciences SPSS (v17.0, SPSS Inc., Chicago, IL, USA). The comprehensive variance analysis and correlation analysis were carried out.
The research results indicate that there are no differences between the students of different study programmes, but that there is a correlation between physical activity and life satisfaction. Campbell et al. (1976, Diener, 1984; according to Penezić, 2006) define life satisfaction as a perceived difference between aspirations and achievements, which is one of the prerequisites for the development of the entire society.

Key words: physical activity, life satisfaction, development.

1. Introduction

The overview of the existing research on life satisfaction suggests there are different perceptions of life satisfaction and related concepts, such as well-being, happiness and quality of life. Existing attempts at theoretical explanations of life satisfaction and its conceptual non-distinctiveness from related concepts suggest the need for a clearer and more precise definition. In doing so, it is important to take into consideration the fact that the definitions of life satisfaction are different concerning the field of research. Campbell et al. (1976; Diener, 1984; according to Penezić, 2006) define satisfaction as the perceived difference between aspirations and achievements, which ranges from the perception of accomplishment to the perception of deprivation. For example, when evaluating life satisfaction, one often relies on the current frame of mind as an indicator of overall satisfaction. Also, in evaluating life satisfaction, people often consider the overall time spent in a good mood compared to the overall time spent in a bad mood. According to Veenheoven (1996; according to Penezić, 2006) life satisfaction cannot be perceived as a stable personality trait, for several reasons. First, life satisfaction is not stable over time, and especially not throughout life. Second, life satisfaction is susceptible to changes in living conditions. The improvement or decline of living conditions is usually accompanied by perceived improvement or decline in life assessment. Third, satisfaction is not completely internally determined, but it has been shown that satisfaction is influenced by both personal characteristics and societal orientation, and the internal parameters modify environmental influences rather than overshadow them. It is for those reasons that this research aims to analyse life satisfaction of the student population at the Faculty of Education. Namely, the student environment, as a societal orientation, could influence the students' satisfaction. Likewise, "sport is one of the fundamental social institutions, inseparable from the structure of society and institutions of the family, economy, media, politics, education, religion and the like, and an integral part of people's lives" (Perasović, Bartoluci, 2007). Thus sport has multiple effects on all domains of everyday life, life satisfaction included. "The significance of sport in everyday life is not much different from society. Sport is an integral part of the social needs of the individual; it is a universal means of understanding and cooperation between people, with the aim of physical and spiritual education, vitality and health, social relationships and attitudes, defensive readiness and quality of life." (Bjelajac, S., 2006) Therefore, sports and other kinesiological activities can be related to satisfaction with life. These activities undeniably contribute to productivity in work and are a potential factor for the development and prosperity of society. An indicator of life satisfaction can provide important information related to the subjective perception of the well-being of an individual and contribute to the promotion of health both in theory and in practice, and for the well-being of society as a whole. Happy and satisfied people are healthier, they live longer, earn more, they are more productive and have better social relationships (Lyubomirski, King & Diener, 2005; Diener, 2013; Sirgy, 2012; Steptoe, Deaton & Stone, 2015). The experience of happiness and well-being encourages people to achieve their goals and build competencies that make them resilient to potential problems and challenges in life (De Neve, Diener, Tay & Xuereb, 2013). The definition of health of the World Health Organisation states: "Health is a state of complete physical, psychological and social well-being, not just the absence of illness or disability." (WHO, 2011) There have been numerous studies that found a positive correlation between physical activity and quality of life. Physical activity refers to any bodily movement which activates skeletal muscles, resulting in energy consumption (Jurakic & Heimer, 2012; according to Caspersen, Powell & Christenson, 1985). Research shows that people who exercise perceive their health-state to be in a better condition, and are at the same time more satisfied with life than those who do not exercise (Hassmen, Koivula & Uutela, 2000). In addition to physical health, playing sports affects the psychological well-being and some individual characteristics of a person

(Gorman, 2002).The implementation of the recommended level of physical activity enables the maintenance and improvement of health by maintaining and reducing the decline of motor and functional abilities, which positively affects the quality of life (Berger & Tobar, 2007). Research indicates a positive correlation between frequency of physical activity and subjective health assessment (Olchowski et al., 2009), and general self-esteem as a trait of psychological health (Cohen and Shamus, 2009). Also, the implementation of a physical exercise programme affects positively the satisfaction with one's physical appearance as an indicator of psychological well-being (Campbell & Hausenblas, 2009).

2. Research objective

Objective:
The primary objective of this research was to establish the level of life satisfaction of the students of the Faculty of Education in Osijek (FOOZOS) and determine whether there are any differences in life satisfaction between the students at different study programmes – Class teacher (CT), Preschool education (PE) and Kinesiology (KIN) – in relation to the level of physical activity in their spare time and with respect to gender.
Secondary objective:
The second aim was to research the relation between the level of physical activity and life satisfaction.

Problem:
1) To establish the level of life satisfaction in the overall sample
2) To establish whether there are any differences in life satisfaction concerning a different study programme
3) To establish whether there are any differences in life satisfaction concerning the level of kinesiological activities
4) To establish whether there are any differences in life satisfaction concerning gender
5) To establish whether there are any differences in the level of kinesiological activity concerning gender
6) To establish whether there is a correlation between life satisfaction and the level of kinesiological activity

3. Methodology

Participants:
The research included a total of 196 students, 62 male and 134 female from the Faculty of Education (FOOZOS) in Osijek. The respondents were divided into three groups according to the study programme they attended at FOOZOS. Fifty-three students were attending the Preschool education programme, 56 the Class teacher programme and 87 the Kinesiology programme.
Instruments:
The research used the Life Satisfaction Scale (Penezić, 2002) and the Questionnaire on the type and level of kinesiological activities that respondents currently engage in in their leisure time. The Life Satisfaction Scale was conducted using a 20-item questionnaire. Seventeen items relate to the assessment of general satisfaction, while the other three items assess situational satisfaction. The respondents answered the questions by circling a corresponding number on a 5-point Likert scale and the total score was formed as the linear assessment combination. In the previous studies, the scale showed a one-factor structure with a particularly high Cronbach

alpha reliability of 0.93. The overall result is formed as a linear assessment combination. Higher scores indicate higher life satisfaction, with scores ranging from 20 to 100.

In the Questionnaire on the type and level of kinesiological activities that respondents engage in in their leisure time, students stated which kinesiological activity they engage in, how many times per week and for how long. The results were expressed in total minutes per week and classified into 4 groups. The first group included respondents who engage in kinesiological activities 0 minutes per week (N 95), the second group were respondents engaged in kinesiological activities 120 – 320 minutes per week (N 23), the third group included respondents engaged in kinesiological activities 320 – 520 minutes per week (N 46), while the fourth group included respondents who engage in kinesiological activities 520 minutes and more per week (N 32).

Protocol:

The survey was carried out in groups during the Kinesiology culture course at the Faculty of Education. Before they began answering the questions, the respondents were informed they were volunteering and could withdraw at any time. They were also informed that the research would not be anonymous, but that the data would only be used for research purposes. Of the 250 respondents, 196 participated in the survey. Part of the students voluntarily withdrew from the survey. The survey was conducted by kinesiologists educators. The duration time was not set for the questionnaire, but all respondents completed it within an average of 15 minutes. The respondents were required to, after reading each statement, circle the corresponding number on the right side, below the answer they chose. In relation to the type and level of kinesiological activities they engage in, respondents were required to state which activity they engage in, how many times per week and for how long.

Statistical Package for Social Sciences SPSS (v17.0, SPSS Inc., Chicago, IL, USA) was used for data processing. ANOVA was done to establish differences in life satisfaction of different study programmes and the level of kinesiology activity. Differences in the life satisfaction and level of physical activity according to gender were tested by t-test, and the correlation between life satisfaction and level of kinesiological activity was tested by correlation analysis.

4. Results

The study found that 97% of students of the different study programs of the Faculty of Education (FOOZOS) (Class teacher, Preschool education, Kinesiology) achieve above-average results in overall achievement on the life satisfaction questionnaire.

Figure 1: Mean score on the life satisfaction questionnaire
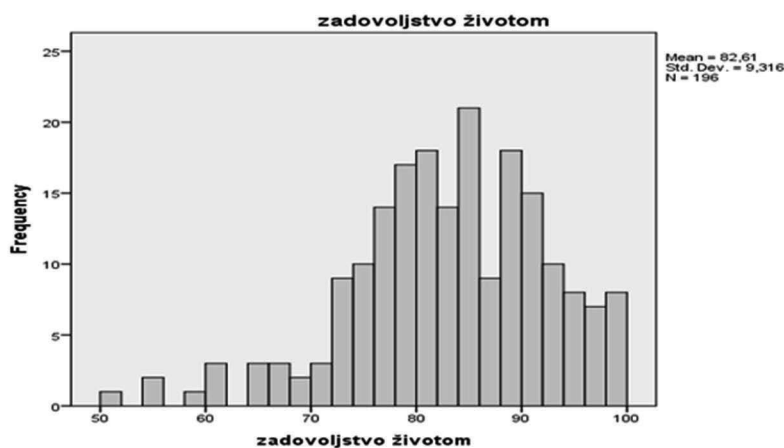
Source: authors

Figure 1 shows the mean of the respondents' life satisfaction is 82.61. The score of the life satisfaction questionnaire ranges from 20 to 100 points, with 190 respondents achieving more than 60 points, which represents the mean of the total score of the questionnaire. Only one respondent scored 60 points, which is the mean of the questionnaire, and 5 respondents scored less than 60 points, which corresponds to below-average values of the total life satisfaction questionnaire score.

The respondents from three different study programmes have an average total life satisfaction score of about 80 points, which corresponds to the above-average values of the life satisfaction questionnaire (Table 1.).

The next step in analysing the data was to examine whether there are any differences in life satisfaction with regard to the level of physical activity expressed in minutes per week. In order to examine the differences between the three groups of respondents, a simple ANOVA was used. It indicated that statistically significant differences between the mentioned groups were not found (Table 2).

Table 1: Descriptive data

		M	SD
Study programme	**CT (N=55)**	83.36	8.929
	PE (N=53)	80.60	11.122
	KIN (N=87)	83,34	7.798
Physical activity	**Group 1 (N=95)**	81.64	9.505
	Group 2 (N=23)	83.13	10.010
	Group 3 (N=46)	83.87	7.76
	Group 4 (N=32)	83.28	10.246

M – mean; SD – standard deviation
Source: authors

Table 2: Life satisfaction with respect to a study programme and kinesiological activity

	F-ratio	*df*	*p*
Study programme	.698	3	.554
Kinesiological activity	1.692	2	.187

df – degrees of freedom; p – level of significance; *p<.05
Source: authors

Next, the difference in life satisfaction in relation to gender was examined. A T-test including all respondents indicated that there was a statistically significant difference in life satisfaction between female and female students. The results show that male students are more satisfied with their life than female students (Table 3).

Table 3: Life satisfaction with respect to kinesiological activity and gender

	Male N=62		Female N=134				
	M	*SD*	*M*	*SD*	*t-value*	*df*	*p*
Life satisfaction	84.52	8.403	81.72	9.612	1.966	194	.041
Kinesiological activity	485.08	225.963	114.59	207.447	11.286	193	.000

M – mean; SD – standard deviation; df – degrees of freedom; p – level of significance
Source: authors

Pearson correlation coefficient test between the variables was calculated to establish the correlation between life satisfaction and kinesiological activity. There are no statistically significant correlations at any level (Table 4).

Table 4: Life satisfaction in relation to kinesiological activity

	Kinesiological activity	*Life satisfaction*
Kinesiological activity	1	.213
Life satisfaction	.213	1

Source: authors

5. Discussion

Subjective quality of life encompasses seven domains: material well-being, emotional well-being, health, productivity, intimacy, security, and community (Best, 2000; Cumins, 1998). The results obtained in this research show that the observed group of students are satisfied in most of the domains mentioned. It is the age of the respondents that determines the results presented. Students are usually financially secured (by parents or by various scholarships). Health status, productivity and intimacy are closely linked to age. Krizmanić and Kolesarić define the quality of life as a subjective experience of one's life determined by objective circumstances in which one lives, personality traits, and specific life experience (Krizmanić and Kolesarić, 1989). The environment (colleagues from their study programmes and other student activities and organisations) provides them with security and belonging to the community. Although it was expected there would be a difference between the groups in terms of their study programmes and the amount of physical activity respectively, statistically significant differences were not established. Similarly, the studies of Ates et al. (2009), and Blacklock (2007) found a positive correlation between life satisfaction and physical activity. However, Vural (2010) found in his research that there was no significant correlation between life satisfaction and physical activity (Guven et al., 2013). These results could be attributed to the characteristics of the study programmes. All the study programmes included in the research offer courses that require physical activity. So, class teachers and preschool educators take a wide range of courses that require some form of physical activity (Physical and health education, Kinesiology, Kinesiology practice, Swimming, Rhythmic dance, Extracurricular Sport Activities, etc.). Clearly, attending any of the observed study programmes includes a lot of physical activity, which could have influenced the degree of life satisfaction. In subsequent studies, it is necessary to research possible differences in relation to other study programs that do not offer as much physical activity. The results of a study conducted by De Moor et al. (2006), whose sample consisted of a group that regularly exercises and group that does not exercise at all, confirm the differences in some personality traits with regard to exercise. Specifically, the study found that regular exercise was associated with lower levels of neuroticism, anxiety, and depression, as

well as high levels of extroversion and arousal seeking. Diener and Diener (1995) state that women might be expected to have lower levels of life satisfaction and self-esteem, perhaps because they were traditionally raised to have less power and fewer resources than men.

It was also found that there was a significant gender difference in the amount of physical activity (Table 3). Male students spend on average 485 minutes per week on physical activity, as opposed to female students, who are physically active only 114 minutes per week.

6. Conclusion

Happy and satisfied people are healthier; they live longer, earn more, and are more productive and have better social relationships (Lyubomirski, King & Diener, 2005; Diener, 2013; Sirgy, 2012; Steptoe, Deaton & Stone, 2015). This research showed that 97% of the students at the Faculty of Education from different study groups (Early and preschool education, Class teacher studies, Kinesiology) have above average results in the life satisfaction questionnaire. The observed groups were satisfied with their quality of life, therefore their work performance should be greater, which significantly contributes to the development of society as a whole.

Variance analysis determined that there were no statistically significant differences between the groups of respondents. Further analyses did not establish the correlation of the degree of life satisfaction with the level of physical activity, which is most likely due to the specificity of the study programmes respondents attend. The study programmes are so designed that each requires a certain degree of physical activity, which obviously contributes to a greater degree of life satisfaction.

The analysis also examined the differences in satisfaction between genders. T-test on the whole sample determined statistically significant differences between male and female students. i.e. male students expressed greater satisfaction, which could be ascribed to personality traits.

Finally, it can be concluded that the students are generally satisfied with their quality of life, which could contribute to the overall level of success and work productivity. All observed study programmes comprise significant levels of physical activity, which has certainly contributed to general life satisfaction. According to previous research, physical activity can have a positive influence on life satisfaction so further studies should include other different study programmes that do not require such high levels of physical activity.

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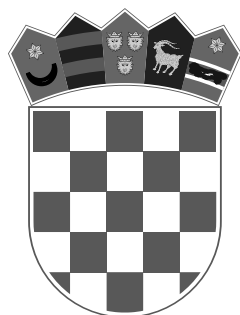
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