Hochschule Pforzheim – Pforzheim University

Faculty of Economics in Osijek – Josip Juraj Strossmayer University of Osijek

BOOK OF ABSTRACTS
39TH SCIENTIFIC SYMPOSIUM

Competitiveness in digital economy

October 22-23, 2018
Pforzheim, Germany
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INTRODUCTION

The broad topic of competitiveness, around which researchers from Hochschule Pforzheim and Faculty of Economics in Osijek meet for several years is in 2018 dedicated to the digital economy and the way competitiveness contributes to its development. Both topics are of high relevance for German and Croatian society and economy, and the research of the interaction between the two proves to be a challenging issue.

This book presents 12 abstracts from the 39th scientific symposium Osijek – Pforzheim “Competitiveness in digital economy” that was held at Hochschule Pforzheim – Pforzheim University, on 22-23th October 2018.
ABSTRACT

Companies increasingly use automated decisions not only for internal purposes like warehouse or machine management, but also for external purposes like pricing. If used for external purposes, the usual legal framework applies; this implies that the reason for a specific decision can be explained if a third party legally challenges it. When artificial intelligence system is used, this explainability (or reproducibility) can be lost depending on the specific technology, i.e. an intelligent automated decision may not be explainable.

On the other hand, using automated decisions means delegation of decision rights to a machine. In the current legal framework this is not possible, i.e. a real person remains responsible for decisions taken by the system.

Putting these ideas together, a company that uses intelligent automated decisions has to clearly allocate the responsibility for these decisions to a person and to enable this person to actually monitor and understand the process of decision making. Typically, this will require resources and training for the specific person. In addition, if the top management uses an internal audit unit to monitor the company’s processes independently, the internal audit unit has to be able to perform this task. This may result in additional needs for resources and training as well.

Key words: Artificial Intelligence, Decisions, Corporate Governance
TAX SYSTEM AND TAX REFORMS IN THE DEVELOPMENT OF COMPETITIVENESS OF REPUBLIC OF CROATIA

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ABSTRACT

When it comes to the design of a quality tax system, the most important factors are the stability and prompt design of tax activities and reforms. All this creates fiscal policy of the country that can positively influence the development of competitiveness, specifically from the perspective of the investments and economic environment, but also in creating a competitive tax system. In the last 20 years, the tax system of the Republic of Croatia went through large number of tax reforms, adopting to the numerous political, economic and social transition processes but most of the implemented tax reforms did not have a positive impact on creating a positive investment environment. The adoption and implementation of legal regulations related to the taxation is the result of short-term planning and implementation of fiscal policies, primarily focused at stabilizing the state budget. In numerous studies related to the competitiveness and resource management on the state level, the Republic of Croatia still recognizes the weaknesses in tax system, specifically excessive taxes and contributions, excessive corporate tax burden and excessive non-tax revenue. The purpose of this paper is to analyze the tax system of the Republic of Croatia since from its independence until today and to investigate the reasons for the instability of the tax system, as well as the inefficiency of the tax system when it comes to the competitiveness.

Key words: tax system, fiscal policy, taxes, tax burden, competitiveness
BUSINESS MODELS OF NON-FOR-PROFIT ORGANIZATIONS

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ABSTRACT

Business models are usually used to describe how business entities sustain their competitive advantage, offer their customers better value and create good cooperation with their suppliers. Business models ensure visualization and communication of processes and knowledge inside the company and therefore can be used to compare and share best practice examples. Business model canvas template is most often used to describe the efficiency of a company. While the literature is rich with best practice examples among for-profit business entities, non-for-profit organizations are rarely observed and compared through the business model concept. Researchers usually test the applicability of the model on non-for-profit organizations. Our goal is to describe and compare business models of 15 Croatian non-for-profit organizations using the business model canvas methodology and to find out what makes those organizations successful and efficient. Since non-for-profit organizations do not generate profit, we hypothesize that their success and efficiency are closely connected to the value that those organizations create for users of their services.

Keywords: business models, non-for-profit, efficiency, value creation
E-LOGISTICS AND E-SCM: HOW TO INCREASE COMPETITIVENESS

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ABSTRACT

Recent technology development and the rise of e-commerce activities influenced changes in the logistics field and have “forced” companies to change their approach to logistics. On the other side, we are witnessing new developments in logistics service providers and their transformation. Competitiveness today doesn’t depend only on price but also on customer service and delivery time. This can be influenced by the implementation of modern methods in the logistics. Thus, logistics service providers in the global market are looked at as business partners and the relationship with logistics service company is considered as a partnership. Because of the development in technology e-logistics concept has become more frequently used since it gives concepts for information sharing and information transparency within partners within supply chains (Vasilev, 2015: 214). Thus, one of the important tasks of e-logistics is to share information with its partners and with that, it can have an influence on their competitiveness.

The main aim of the paper is to show that right logistics service provider in the modern supply chain can help companies to gain and maintain competitiveness and especially by using different modern digital tools in doing business. We will look how DHL is playing important role in the supply chain of their partners as their logistics partner and who is increasing their competitiveness on the market.

In the end, we will give conclusions and suggest further research about interconnection in the supply chain and how logistics service providers influence on a company’s performance.

Keywords: e-logistics, e-SCM, logistics service provider, competitiveness, DHL
LABOR MARKET INTEGRATION OF REFUGEES IN GERMANY:
EMPLOYERS' EXPERIENCES AND CONSEQUENCES

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ABSTRACT

In the light of a recent surge of refugee migration in Germany, labor market integration as well as employers’ experiences and consequences are key determinants of immigration’s macroeconomic welfare impacts. Our contribution aims at analyzing recent empirical evidence of employers’ expectations, obstacles, consequences and benefits. To achieve these goals, we first sketch potential negative and positive short- and long-run macroeconomic immigration effects on host countries like Germany and the decisive role of refugees’ labor market integration in this respect. Then, employers’ expectations as well as obstacles of corporate refugee employment, their causes and corporate remedies are discussed. Furthermore, the current size of employers’ engagement in hiring refugees is shown as well as the resulting employment status of refugees after few years in Germany. Based on own and secondary empirical research, we argue that refugees labor market situation may change considerably in the future, particularly as female refugees frequently adopt considerably higher employment aspirations in Germany compared to their countries of origin, which are often restrained by diverse obstacles. We finally discuss how to mitigate challenges of female labor market participation and how the German labor market administration can improve its performance – in the interest of employers, refugees and of the economic welfare in Germany.

Keywords: refugees, employers, labor market, jobcenter, Germany
COMPETITIVENESS IN CONNECTING BLUE AND GREEN CROATIA

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Despite the significant potential of connecting blue and green Croatia i.e. the distribution of agricultural products from Slavonia, Baranja and Srijem and in hotels at the seaside there is no strong connection. One of the important reasons for this status is in the low competitiveness of small and medium-sized producers from Green Croatia. During the last twenty years, there have been several initiatives of creating a strong connection but until today, they all failed without any positive results. Better competitiveness and success criteria of the cooperation between companies from the blue and green Croatia could be part of the solution. However, scientific literature suggests gastronomy is a basic element for creating a tourist experience and is the most common motive for getting to the destination. Unique local food and local cuisine in some region is a strong resource that can be used as a marketing tool to attract visitors to the destination. The question is if gastronomy can be part of the solution for better connections between blue and green in the future. And if it could be a solution which way to go. Could tourist from blue Croatia be transferred to green one through organized trips? In the final part of the paper, authors will give a recommendation how small and medium-size producers can increase their competitiveness and have better sales results and at the same time will give recommendations and activities for the local and regional government to increase the competitiveness of the small and medium-sized producers from their region.

Keywords: competitiveness, blue Croatia, green Croatia, policy recommendations
NON-RENEWABLE RESOURCES, SUBSISTENCE CONSUMPTION, AND HARTWICK'S INVESTMENT RULE

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ABSTRACT

This contribution is concerned with efficient use of a non-renewable resource if households are characterized by Stone-Geary preferences with a minimum subsistence level of consumption. We provide a closed form solution for the case of Cobb-Douglas production with constant returns to scale in reproducible capital and resource input. The existence of a subsistence level of consumption implies the economy to converge asymptotically towards a growth path that satisfies the well-known Hartwick investment rule. We calibrate the model reflecting the endowment of resource depending low-income countries and confront it with the World Bank's poverty lines.

Keywords: Hartwick rule, subsistence consumption, non-renewable resources
BUSINESS MODEL AS A BASE FOR BUILDING FIRMS’ COMPETITIVENESS

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ABSTRACT

New venture creation is a long-lasting process that contains several important stages. Entrepreneurial process begins with the decision of becoming an entrepreneur, followed by idea development, feasibility study and new venture creation. An important step in this process is developing business model of future venture, as it serves as the base for creating firms’ competitive advantage. What differs one firm from another is their business model - it defines the distinctions of the firm, how the firm deals with the competition, firms’ partnerships and customer relations. This paper demonstrates the importance of a business model in creation of competitive advantage. The empirical part of the paper presents the business model of three companies from the ICT industry in Croatia, using business model Canvas (Osterwalder and Pigneur, 2014). Additionally, business model components were also analyzed using a framework for evaluating a business model (Pfeifer et al., 2017). Based on these analyses, conclusions about the business models of a small ICT firms in Croatia and the sources of their competitive advantage are drawn.

Keywords: entrepreneurial process, business model, competitive advantage, ICT industry
ICT ADOPTION AND EXPORT PERFORMANCE: EMPIRICAL EVIDENCE FROM CROATIAN COMPANIES

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ABSTRACT

Technology development has enabled companies of all kinds, industries and sizes to actively participate in international business. There is evidence from different studies that ICT implementation is positively related to exports decision (Hagsten, 2014), to easiness of serving global market (Morgan-Thomas and Bridgewater, 2004) and to export performance (Beckers et al., 2007; Mathews and Bianchi, 2010; Ghalandary, 2013 and others). The objective of this research is to identify the level of ICT adoption in Croatian exporting companies and investigate its influence on their export performance. In analysis of the level of ICT adoption, a partial OECD e-commerce maturity model (OECD, 1999) was used, which measures several aspects of ICT readiness and intensity of web sites and e-commerce in exporting companies. Export performance was measured through export/total business activities ratio, export/total revenue ratio and additionally with multilingual official websites existence. Our findings provide enough evidence that ICT adoption has a positive correlation to export performance of Croatian exporters. However, it should be noted (as can be seen in Table 5) that three ICT adoption factors positively correlate with export performance: namely (1) e-mail use for correspondence with partners/suppliers/buyers, (2) use of internet as promotional tool for foreign markets and (3) e-payment use. Two remaining ICT adoption factors that were measured – (1) use of internet as information source on foreign markets/buyers/suppliers and (2) online ordering/sales, did not record a positive correlation with export performance.

Keywords: ICT adoption, export performance, statistical analysis, Croatian exporters
RESHORING – BRINGING JOBS BACK TO THE US AND THE EU?

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ABSTRACT

After the financial crisis the European Commission developed the Europe 2020 strategy in which the target to develop a strong and competitive industrial sector in the European economy was included. The main reason therefore was the fact that countries like Germany with an above-average industry share of gross domestic product (GDP) were much more successful than especially Southern European countries in overcoming the crisis particularly on the labor market. Therefore, the Commission declared the aim to increase the share of the industrial sector in the Europe from 16% in 2012 to 20% in 2020 as a mean for accelerate growth and fight unemployment. In the US a similar discussion began in the second period of the Obama administration. In the US the industrial share of the GDP increased partly due to reshoring activities from China and Mexico.

The analysis of reshoring effects in Europe is complicated because there are no official and reliable data available. The European Restructuring Monitor and the European Reshoring Monitor are not representative. The empirical results in the literature show that the labor market effects of reshoring activities are still low. Target countries of reshoring activities seem more to be lying in Eastern than in Southern Europe.

Keywords: reindustrialization, offshoring, reshoring, manufacturing
IMPORTANCE OF ENTREPRENEURIAL SKILLS AND COMPETENCIES IN MANAGING EDUCATIONAL INSTITUTION

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ABSTRACT

This paper discusses the importance of entrepreneurial skills and competences in the management of educational institutions, with emphasis on primary educational institutions and entrepreneurial skills and competences of headmasters of these institutions. Entrepreneurship is a way of thinking and acting, which includes innovative, proactive and responsible thinking and acting, as well as the skill to cope with risk. It requires the ability to create something new, encourage change and look at problems from a different angle. Making decisions often entails risk, which one must know how to handle and to predict. These are the situations that a person who manages an educational institution encounters on a daily basis. Despite the fact that there is no requirement for formal education of headmasters of educational institutions, there is a need to introduce it, at least through informal forms of education and training.

The aim of this paper is to investigate the importance of entrepreneurial behaviour in primary school management and point out the need for improvement of entrepreneurial competences of headmasters in successful performance of this function. Based on the results obtained through analysis of the GET (General Enterprising Tendency) test, conducted among school headmasters from three Slavonian counties, information on the level of development of entrepreneurial competences of headmasters was obtained. Based on the above, recommendations on what can be done to influence the development of these competences are given.

Keywords: entrepreneurial skills, entrepreneurial competences, educational system in Croatia, educational systems in Europe, primary educational institutions, managing educational institution

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1 General Enterprising Tendency Test is a test developed by Durham Business School, United Kingdom, which measures the level of development of five traits, most commonly associated with enterprising people.
FULL-SCALE DEMONSTRATIONS OF URBAN TRANSPORT AUTOMATION BY DEPLOYING BUS SHUTTLES: IMPACT ASSESSMENT

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ABSTRACT

Our current mobility paradigm is based on cheap fossil fuel energy, high CO2 exhausts and individual mobility. This paradigm reaches increasing environmental, economic and social limits, thus provoking a change of the political frameworks and, together with technological progress, driving the change to a more sustainable mobility (Fournier 2017). The creation (“creative destruction”) (Schumpeter, 1950) and development of new products, new industries, services and infrastructure (Perez, 1983) could consequently foster the emergence of a low carbon oriented, energy and resource efficient, service oriented, intermodal and customer-oriented mobility paradigm. The options to achieve this transformation depends of course on social behaviour.

Digitalisation and the integration of technologies for connected products and e-mobility are furthermore accelerating the servitisation process. Digitalization and servitisation are disrupting established business models for public and private transports and initialize a creative destruction process. Autonomous bus shuttles combined with mobility clouds could thus make traditional public transport more flexible, time and cost efficient, user friendly and customer oriented. By introducing mobility on demand, the implementation of mobility as a service (MaaS) could better respond to the customer transportation needs (including passengers with reduced mobility), revolutionize public transport and shape new ways of city design. The quality of life of users and city residents could consequently be improved.

To prepare the future of transportation, the European Commission has been funding several research projects in the last 15 years, as well as full-scale demonstration projects in different European cities, such as CityMobil, CityNetMobil, CATS and CityMobil2, to demonstrate fully automated vehicles on mixed urban roads (Mercier-Handisyde, 2018). The last-mentioned project took place in seven cities in six different European countries with a carrying capacity of more than 60 000 passengers in urban environment and involved two technology manufacturers. The results show that full road automation is feasible today. Following the steps of different projects and learning from their experiences, AVENUE works on bringing more insights on the integration of autonomous vehicle in public transportation with full automation technologies and less segregation roads (full automation and applicability to certain infrastructure).

Challenges

The use of autonomous vehicles for public transport requires the development and test of new service models that will transform the “simple” ride into a user experience, taking into account the diversity of passenger needs, offering personalised services and covering areas that are not economically coverable today. Although autonomous public transport vehicles are under pilot testing in many cities around the world, the major barrier for their large-scale adoption is that
the transport operators, public authorities and passengers are not yet fully convinced of the safety (road behaviour) of the autonomous vehicles. In consequence, different regulatory and even legal restrictions cannot be waived to allow the full exploitation of the autonomous vehicle potential. Many questions remain unanswered, relating to solid evidence of the vehicle's secure operation in today’s complex urban streets, where they will coexist and share the roads with driver vehicles, pedestrians, bicycles, etc. for many years to come.

Research goal
The ultimate target is to demonstrate the suitability and efficiency of the use of small and medium autonomous vehicles (AV) for different transport models that are under development in Europe. Therefore, it will be necessary to understand acute, but as well latent needs of potential users and (other) stakeholders.

The large-scale deployment of autonomous vehicles, combined with online services, user profiling and dynamic itinerary optimization, could have a snowball disruption effect on today’s public transport model.

In AVENUE’s vision for the future public transport in urban and sub-urban environments autonomous vehicles will ensure the safe, rapid, economic, ecological and personalised transport of passengers, minimizing vehicle changes, picking them at their doorstep and depositing them as close as possible to their destination. To this end, the project’s mission is to demonstrate that autonomous vehicles could be a key element of the solution for public transport in the future. The project will not only assess the road behaviour safety of the autonomous vehicles in public transports, it will also demonstrate the economic, environmental and social advantages of autonomous vehicles for both the exploiting companies and the users, opening the way for a full-scale adoption of autonomous vehicles in public transport after the end of the project.

Key words: Autonomous vehicles, bus shuttle, public transport, electric vehicles, mobility on demand, mobility as a service.