

THE J. J. STROSSMAYER UNIVERSITY OF OSIJEK
PFORZHEIM UNIVERSITY OF APPLIED SCIENCES

INTERDISZIPLINÄRE MANAGEMENTFORSCHUNG III
INTERDISCIPLINARY MANAGEMENT RESEARCH III



Publisher:
Faculty of Economics in Osijek
Josip Juraj Strossmayer University of Osijek
Hochschule Pforzheim
University of Applied Sciences

and
Grafika d.o.o Osijek

For the Publisher
Prof. dr. Rudi Kurz, Dean
Prof. dr. Željko Turkalj, Dean

Scientific editors
Prof, dr. Dražen Barković
Prof. dr. Bodo Runzheimer

Print
Grafika d.o.o.

The publishing of this book was approved by the Senate
of Josip Juraj Strossmayer University of Osijek
Number: 10/07, 14 May 2007

CIP - Katalogizacija u publikaciji
GRADSKA I SVEUČILIŠNA KNJIŽNICA OSIJEK

UDK 65.012.4(063)

INTERDISZIPLINÄRE Managementforschung
III = Interdisciplinary management
research III / <wissenschaftliche
Herausgeber Dražen Barković, Bodo
Runzheimer>. - Osijek : Ekonomski
fakultet, Postgraduate Study Management ;
Pforzheim : Fachschule Pforzheim,
Hochschule fuer Gestaltung, Technik und
Wirtschaft, 2007.

Tekst na njem. i engl. jeziku. -
Bibliografija.

ISBN 978-953-253-026-1

1. Interdisciplinary management research
III 2. Barković, Dražen

111125030

THE J.J. STROSSMAYER UNIVERSITY OF OSIJEK
UNIVERSITY OF APPLIED SCIENCES PFORZHEIM

INTERDISZIPLINÄRE MANAGEMENTFORSCHUNG III
INTERDISCIPLINARY MANAGEMENT RESEARCH III

Third Interdisciplinary Symposium

POSTGRADUATE STUDY ORGANIZATION AND MANAGEMENT
FACULTY OF ECONOMICS IN OSIJEK

Poreč, Croatia, September 25 – 27, 2006

Program Committee

Prof. dr. Željko Turkalj
Faculty of Economics in Osijek
Prof. dr. Rudi Kurz
University of Applied Sciences Pforzheim
Prof. dr. dr. h.c. Rupert Huth
University of Applied Sciences Pforzheim
Prof. dr. dr. h.c. Gunther Gottlieb
University of Augsburg
Prof. dr. Jozsef Toth, Rector emeritus
University of Pecs
Prof. dr. Dražen Barković
Faculty of Economics in Osijek
Prof. dr. Bodo Runzheimer
University of Applied Sciences Pforzheim

Organizing Committee

Prof. dr. Maja Lamza-Maronić (chairperson)
Prof. dr. Rainer Gildeggen
Prof. dr. Jusuf Šehanović

Reviewers

Prof. dr. Hartmut Löffler (Germany)
Prof dr. Bela Orosdy (Hungary)
Prof. dr. Ivan Pavlović (Bosnia and Herzegovina)
Prof. dr. Vladimir Srb (Croatia)

Inhaltverzeichnis - Contents

VORWORT.....	9
FOREWORD.....	10

Economics

Mladen Vedriš:

EMPLOYMENT AND EMPLOYABILITY IN THE REPUBLIC OF CROATIA AS AN ESSENTIAL FACTOR IN THE GROWTH OF GDP.....	13
--	----

Smaranda Cosma, Cornelia Pop, Adina Negrusa:

SHOULD DRACULA MYTH BE A BRAND TO PROMOTE ROMANIA AS A TOURIST DESTINATION?.....	39
--	----

Pap Norbert:

THE DEVELOPMENT OF CULTURAL INDUSTRY IN THE SOUTH-TRANSDANUBIAN REGION (HUNGARY).....	57
---	----

Đula Borozan, Željko Klepo

FREE ZONE – THE SOURCE OF SOCIO-ECONOMIC BENEFITS.....	75
--	----

Ivana Barković:

GENDER PAY GAP IN THE EUROPEAN UNION LABOR MARKET.....	92
--	----

Darko Dukić, Gordana Dukić, Davorin Turkalj:

COMPUTER DATA ANALYSIS AIMED AT CONSTRUCTING A MODEL OF ESTABLISHING THE FACTORS WHICH DETERMINE HOUSEHOLD SAVINGS IN THE REPUBLIC OF CROATIA.....	99
--	----

Jeremić Zoran, Mešić Almir:

STRATEGIC MANAGEMENT OF THE TOURIST DESTINATION ISTRIA.....	112
---	-----

Finance

Bodo Runzheimer:

INNENFINANZIERUNG EINES INDUSTRIEUNTERNEHMENS

- ERFASSUNG UND BEURTEILUNG DER INNENFINANZIERUNGSARTEN.....	125
--	-----

Urban Bacher, Timo Keppler:

NEUER EIGENKAPITALSTANDARD BASEL II UND SEINE AUSWIRKUNGEN
AUF DEN MITTELSTAND.....146

Branimir Marković, Branko Matić, Domagoj Karačić:

PROMISSORY NOTE AS PAYMENT SECURITY INSTRUMENT IN THE REPUBLIC
OF CROATIA.....164

Izabela Pruchnicka-Grabias:

FINANCIAL OPTIONS – A LOOK AROUND THE WORLD.....173

Gavriletea Marius:

SHORT ANALYSIS OF ROMANIAN BANKING SECTOR AFTER
BCR PRIVATIZATION.....181

Sanja Popović, Ksenija Obrecht:

RATIONALIZATION OF THE HEALTH CARE SYSTEM THROUGH INTRODUCING
OF BASIC AND SUPPLEMENTAL DRUGS LISTS ESTABLISHED BY CROATIAN
INSTITUTE FOR OBLIGATED HEALTH INSURANCE.....191

Luka Crnković, Ivo Mijoč, Dražen Ćučić:

INTERNATIONAL FINANCIAL REPORTING STANDARD 5 –NON-CURRENT
ASSETS HELD FOR SALE AND DISCONTINUED OPERATIONS.....204

Operations Management

Dražen Barković:

MEHRFACHKRITERIEN-FUZZY LINEARES PROGRAMMIEREN.....219

Dominika Crnjac:

RISK MEASURE MODELLING.....241

Patrick Baumann:

HANDLING RISK AND USING THE PORTFOLIO TECHNIQUE.....250

Suela Haxhiraj, Patrick Planing, Özlem Bingöl:

CASE STUDY - THE MEXICAN BREWERY CERBUENA.....270

Martina Briš:

SENSITIVITY ANALYSIS AS A MANAGERIAL DECISION MAKING TOOL.....287

INFORMATION & COMMUNICATION TECHNOLOGY

Lina Dečman, Vladislav Rajković, Metod Černetič: PROTECTED WITH FIREWALLS.....	299
Maja Lamza – Maronić, Jerko Glavaš: KNOWLEDGE TRANSFER AT THE EXAMPLE OF UNIVERSITY IN OSIJEK BASED ON ENHANCEMENT OF SOCIAL RESPONSIBILITY.....	306
Asim Tenić, Edin Osmanbegović: REDESIGN OF ORGANIZATION OF INFORMATION SYSTEMS.....	319
Ninoslav Novak, Koraljka Novak: INFORMATION COMMUNICATION SUPPORT TO CRISIS MANAGEMENT IN ENVIRONMENT PROTECTION.....	337
Edin Osmanbegović, Asim Tenić: PERCEPTION OF ICT USAGE IN SMEs.....	352
Milivoj Obradović, Marina Dabić. Mirjana Pejić Bach: IMPLEMENTATION OF BALANCED SCORECARD APPLICATIONS KNOWLEDGE MANAGEMENT.....	358
Ljiljana Drenški Cvrtila, Silvana Fratrić Kunac: INTELLECTUAL CAPITAL AND HUMAN RESOURCE MANAGEMENT.....	373
Darko Dukić, Gordana Dukić, Ivana Alerić: COMPUTER APPLICATION IN STATISTICAL ANALYSIS OF THE INFLUENCE OF EDUCATION LEVEL ON THE PERCEPTION OF ECONOMIC AND SOCIAL ISSUES.....	390
Branislav Orešković: BASKETBALL LOGISTIC SYSTEMS KNOWLEDGE MANAGEMENT.....	406
Barbara Marušnik: KNOWLEGDE MANAGEMENT AND IT'S APPLICATION IN CROATIAN COMPANIES.....	416

Law

Justyna Maliszewska-Nienartowicz:

THE ABUSE OF THE DOMINANT POSITION WITHIN THE INTERNAL MARKET
OF THE EUROPEAN COMMUNITY: FROM THEORETICAL ASSUMPTIONS TO
PRACTICE.....429

Predrag Zima:

(IN)VISIBLE HAND(S).....449

Miscellaneous

Siniša Bilić, Sanja Čop, Ivica Opačak, Zlatko Bagarić:

NON-ATTENDANCE AS THE INDICATOR OF STUDENTS' SATISFACTION WITH
THE EDUCATIONAL PROCESS.....469

Andrea Máté:

WINE TOURISM AND WINE ROUTES IN TOLNA COUNTY.....484

Metod Černetič:

ECONOMY AND UNIVERSITY – WISH FOR GOOD COMMUNICATION.....497

Pavlo Ružić, Dragoljub Amidžić, Ivan Ružić:

MANAGERIAL PROFILES AND CAREERS.....509

VORWORT

Im Rahmen des wissenschaftlichen Nachdiplomstudiums „Management“ der Wirtschaftsfakultät Osijek wurde im Zeitraum von 2002 bis 2006 an der Wirtschaftsfakultät aus Osijek und an der Partneruniversität University of Applied Sciences aus Pforzheim eine Reihe wissenschaftlicher Kolloquien und Symposien abgehalten, auf denen Arbeiten der Nachdiplomstudenten, Professoren und anderer Mitglieder der akademischen Gemeinschaft vorgestellt wurden. Dieses Buch unter dem Titel „INTERDISZIPLINÄRE MANAGEMENTFORSCHUNG III“ besteht aus 13 Arbeiten von Nachdiplomstudenten und 22 Arbeiten der Professoren, die in jener Sprache verfasst wurden, in der sie 2007 an der 3. Internationalen Simposium in Poreč vorgetragen wurden. Somit sind sie ein weiterer Beitrag zur 27jährigen fachmännischen, wissenschaftlichen und überaus freundschaftlichen Zusammenarbeit der Partnerinstitutionen University of Applied Sciences aus Pforzheim und der Wirtschaftsfakultät aus Osijek.

Die Beiträge im Buch, decken die zahlreiche interdisziplinäre Aspekte des Managements von Ökonomik , Finanzen, Operations management, Information und Technologie, Wissensmanagement und Recht auf. Geschrieben wurden sie von 68 Autoren und Koautoren, die auch selbst im Rahmen ihrer Fachbereiche in die erwähnte Problematik mit einbezogen sind.

Wir hoffen, dass wir mit diesem Buch die weitere fruchtbare Zusammenarbeit der Autoren mit dem Nachdiplomstudium “Management“ anregen und neuen Projekten den Weg ebnen.

Prof. Dr. Dražen Barković
Prof. Dr. Bodo Runzheimer

FOREWORD

Within the scientific postgraduate study «Management» of the Faculty of Economics in Osijek, the whole range of scientific colloquiums and symposiums was held from 2002 to 2006 at both the Faculty of Economics in Osijek and its partner institution - University of Applied Sciences in Pforzheim. During these events numerous papers of postgraduate students, their professors and other members of academic community interested in this postgraduate study have been presented. This book titled «INTERDISCIPLINARY MANAGEMENT RESEARCH III» is compiled of 13 papers written by postgraduate students and 22 papers written by professors in the language used for their presentation in 2006 on Third International Symposium in Poreč. This book is one more contribution to the 27th anniversary of the scientific, professional but most of all friendship cooperation of two partner institutions, University of Applied Sciences Pforzheim and Faculty of Economics in Osijek.

The papers in this book reveal numerous interdisciplinary aspects of management, including topics related to economics, finance, operations management, information and technology, knowledge management and law. They have been written by 68 authors and co-authors who are engaged themselves in dealing with the aforementioned issues in their respective professions.

We hope that this book has encouraged further fruitful cooperation between authors and the postgraduate study “Management” and opened the way to new projects.

Prof. dr. Dražen Barković
Prof. dr. Bodo Runzheimer

ECONOMICS

EMPLOYMENT AND EMPLOYABILITY IN THE REPUBLIC OF CROATIA AS AN ESSENTIAL FACTOR IN THE GROWTH OF GDP

Dr.sc Mladen Vedriš
Faculty of Law Zagreb

Economic growth and social inclusion under conditions of ever greater transparency, and the direction of national economies toward global events, is a process that is relentlessly, unstoppably moving forward, and which is becoming even more intense and all-encompassing. How Croatia, a small country with a postwar economy, and which is engaged in a transition process, can find the appropriate responses for growth and development is a key question facing the country today.

Research into the importance and potential of the labor force in Croatia, the rate of employment, the prospects for employment and a definitive assessment of it as one of the essential factors of development, is in its infancy in Croatia. Behind us is 15 years of a different kind of process -- a reduction in the number of employed, especially in the manufacturing industry of the economy, a shortage of significant new investments, and a view of education more as a kind of social and personal obligation than as a fundamental ingredient of personal and national prosperity. Experience, and the results of those countries that have been proactive in this area, demonstrate how essential efficiency in this field is for success in the overall development of society.

Key words: social capital, employment, unemployment, employability, economic growth and development, education, institutions, social costs.

The purpose of this article is to examine the existing limits and dilemmas in this extremely important, and economically and socially sensitive field, and also to suggest possible solutions that are achievable in theory and in practice in a select group of countries, including Croatia. Another goal of the study will be to analyze Croatia's conditions, and to seek an appropriate scientific and theoretical basis for practical solutions in the future.

After the *Introduction*, the first section of the study will present a framework of developments; how in the developed world the interaction between several fundamental values operates: the quality of education, the situation in the labor market, the competitive positions of individual countries, legal regulations that are an essential catalyst for the labor market and finally, the prevailing tendencies for prolonging working careers and the active engagement of the employed work force.

In the second section the focus of interest will be on developments in Croatia. The position and importance of education in specific phases of the development of an independent country, as a derivative of general events, will be analyzed. This section emphasizes the importance of recognizing the value and role of education for economic and social development, and, at the same time, the post-war period of initial capital accumulation in which the system of values rests on different assumptions. Regulations in the labor market will then be analyzed, especially from the aspect of their basic goals and protection of the rights of workers, and the influence that this has on the growth of employment. Differences can be noticed in the possible approach: the position of defending the existing situation, i.e. safeguarding jobs, and/or efforts to raise the level of employability of every participant labor market, regardless of his/her current job.

In the *Conclusion* of the study the author underlines the need to attach importance to the concept of employability to a wider circle of people capable of active employment and stresses that their need for a more adequate education is not something that represents only a specific need of Croatia. It is, as an analysis of outside events will show, an unavoidable factor that has been successfully confronted by the developed world with sustained efforts for continued success. The labor market, its adequate regulation, and well-conceived labor relations are vital elements of the overall context. The adequacy of these relations and the strengthening of the competitive position of a national economy create a situation and a general atmosphere in which retirement at a later age becomes a conscious, rational choice of the individual. At the same time, it also has a social benefit and contributes to the level of GDP, as well as alleviating the financial burdens of the state.

INTRODUCTION

Croatian economic, social and sociological matrices in relation to the degree of (un)employment of its population are contradictory. On one hand, measured by various criteria, there is a high degree of unemployment and a profound lack of balance between supply and demand for labor. There are a high number of unemployed people with a type or degree of education that is neither sought by the labor market, nor relevant, and not only for today but for the future as well. On the other hand, an increasing number of businessmen and companies, both domestic and foreign, are pointing to the need for educated people from various disciplines as a precondition (or an obstacle!) either for continued development, or for reaching a decision on new investment.

Table 1: Administrative and Polled Unemployment Rate in Croatia, 1996. – 2006.

	Administrative Unemployment Rate (%)	Polled Unemployment Rate (%)
1996	15,7	10
1997	16,8	9,9
1998	17,6	11,39
1999	19,5	13,55
2000	21,4	16,07
2001	22,3	15,8
2002	22,3	14,8
2003	19,2	14,25
2004	18,1	13,8
2005*	18	13,1
2006**	18,3	

* The polled unemployment for 2005 is for the first half of the year.

** Administrative unemployment for the period January-February 2006.

Source: Croatian National Bank (www.hnb.hr) (2006)

Here the stated rate of unemployment, both administrative and polled, are high, in absolute terms and in relation to the same values of transition countries. But, the essential measure of this contingent of unemployed should take in consideration and include an analysis of the degree and type of their education structure, and accordingly, the average amount of time that the period of their unemployment lasts.

1. BACKGROUND OF EVENTS

What are the reasons for the accelerated growth and prosperity of the US in the last decade and a half in comparison to the rest of the world, including the Far East and Europe? There are several reasons that can be immediately identified as important: *economy of scale*, becoming the world's sole remaining superpower, a powerful innovative-technological and capital foundation. But, one reason predominates – **developed social capital**,¹ a concept that encompasses general education, health protection, general security and security of property, religious freedom, and awareness of the values and interdependence of living in one's immediate environment and in a broadly diffuse, generally present cultural environment. But, this concept also includes the encouragement to accept entrepreneurial risk in a society where ownership rights, protection of creditors, legal protection for debt repayment, transparent business dealings, and rigorous procedures for financial reporting are clearly defined and protected. This is the first and indispensable step. But, it is not the only one, and it is not sufficient to ensure economic growth and prosperity. Also necessary are the quality and transparency of financial markets, the quality of education and professional training (human capital), and, of course, investment capital – equipment and technology –, as well as developed municipal property and its corresponding infrastructure. These are the basis, and they are the fundamental ingredients on whose interaction – weaker or stronger, synergistically or not – depend the achievement and the extent of economic growth and development.

Certainly, this cycle moves in every milieu by means of a well chosen long-term development model (relying on the *competitive position of the country*) and corresponding operational instruments of economic policy. Education and employment, and this means the adequate accessibility to professionally trained, motivated employees, to a considerable extent determine the overall final outcome. Success in activating all of the remaining segments of development is inspired initially by the professional knowledge of individuals, and by the properly established organization of society and the overall matrices of national development.

1.1. Education, Labor Costs, Labor Regulations

Knowledge and expertise have become the dominant questions in social and economic development. This means that it is also an essential factor for creating new and greater added value, both for the individual, who possesses those qualities and who enters or has entered the labor market with them, and for the position of the national economy: what kinds of investments can be attracted, what kinds of products and services are created and delivered to the market. The sum of these individual values, combined through the

¹ According to Putnam, social capital involves the collective value of social networks and the tendency that emerges from these networks to make things one for the other. For Putnam and his followers, social capital is a key component for building and maintaining democracy. Source: http://dictionary.laborlawtalk.com/Social_capital

activities of the public and private sector in new products and services, also determines the final outcome – in the level of national GDP. At the same time, it is clear, if there is one thing that is valuable and worth acquiring, it is education, treated as an investment in the future.

In developed countries education is increasingly linked with efficiency. This is especially evident in the influence of the information society, of the internationalization of the economy and of science and technical knowledge.

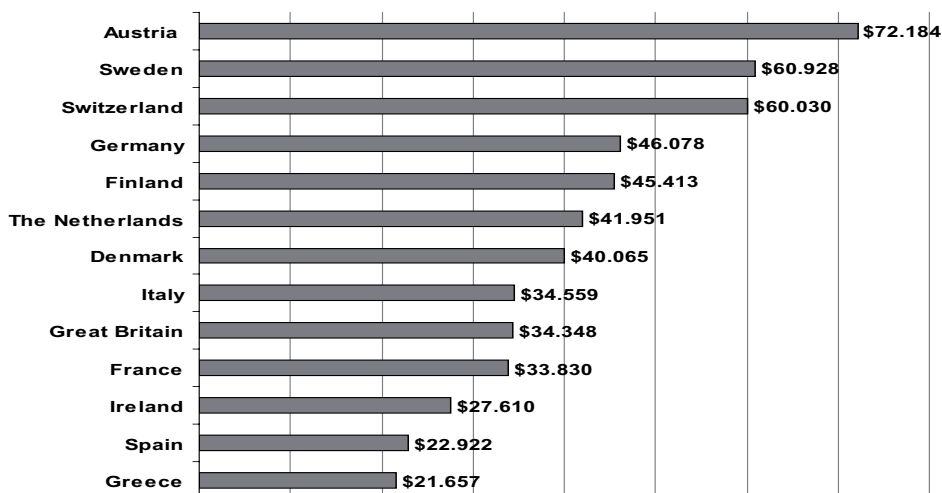
The influence of the information society is mostly present in those types of products that are intended for a certain segment of consumers (*customized type of production*), in a flexible and decentralized organization of enterprises and in a networked system of cooperation, etc.

The internationalization of the economy stimulates the mobility of capital, labor and services, which strengthens Europe's position on the world stage. Important contributions to this effort are being made by various measures to solidify development in the region, the harmonization of technical standards, and real advances in the area of education through program like Erasmus.

Modern education is based on the methodology “learning to learn” in the course of an entire working career. It starts from a broad base of knowledge that has to be accessible to every individual in order to improve or refine that individual's chances for employment and earning a living.²

The level of science and technological innovation achieved in developed countries demonstrates that transition countries, including Croatia, have to devote considerable attention to their educational systems. Education stimulates the mobility of human resources and enables successful communication with all segments of the global marketplace: goods, services, and human resources. Quality education, or the quality of human capital, is especially important for attracting foreign investment.

² “Education in Croatia on the Eve of the 21st Century”, Z. Jašić, in *A Croatian Economy for the 21st Century*, Matica Hrvatska, Zagreb, 2000, pp. 195-203

Figure 1: Shelling Out

Source: OECD, from *The Wall Street Journal Europe*, June 19, 2001, p. 26

Investment costs per student range from very high levels – \$60-72, 000 in Switzerland, Sweden, and Austria – to half of that amount or lower in Italy, Great Britain, France, Ireland, Spain and Greece. An important factor is that with a few exceptions (Austria, Italy, and Greece) the period for obtaining a degree is under five years. This means that there is a relatively rapid entry into the labor market and a quick repayment on the investment in education and, at the same time, the creation of new value. The high level of public investment in tertiary education, which on average is one percent of GDP in the EU member countries, is nearly identical to that in the US. But, there is one very significant difference in favor of the US (amounting to an additional 1.4 percent of GDP) and that is in resources from private sources -- donations, endowments, scholarships, etc. -- compared to which the EU countries have only 0.1 percent. The EU has recognized and understood this difference and has established its own goal – that by the year 2010 it will devote two percent of GDP to higher education from these or other sources, but especially and primarily from public ones.³ The quality of education undoubtedly corresponds to the level of investment in university infrastructure, equipment and all of the other accompanying items that enable the instruction to be conducted in the best and most effective manner. This includes lectures by prominent guest lecturers from the academic and outside world and ensuring that students have the opportunity to conduct research during their studies.

³ Expenditures for education in individual Scandinavian countries already greater than this and amount to 8.5% in Denmark, 7.66% in Sweden, and 6.24% in Finland.

Table 2: Public Expenditures for Education (% GDP)

	1998	1999	2000	2001	2002	2003
EU25	n/a	4,77*	4,71*	5,02*	5,14*	5,21
EU15	n/a	4,7*	4,73*	5,01*	5,13*	5,2
Romania	n/a	3,36	2,88	3,28	3,52	3,44
Bulgaria	4,28	4,46	4,19	3,78	4,04	4,24
Ireland	4,82	4,51	4,29	4,26	4,28	4,4
Slovakia	4,53*	4,40*	4,15*	4,03*	4,35*	4,38*
Croatia	n/a	n/a	n/a	n/a	4,32*	4,66*
Hungary	4,59	4,66	4,5	5,1	5,45	5,94
Slovenia	n/a	n/a	n/a	6,08	5,98	6,02
Austria	5,8	5,79	5,66	5,7	5,67	5,48
Italy	4,65	4,7	4,47	4,86	4,62	4,74
Portugal	5,36*	5,42*	5,42*	5,61*	5,54*	5,61*
Turkey	3,26*	3,08*	3,48*	3,65*	3,56*	3,74*

* *estimated*

Source: Eurostat - Education Across Europe 2003.

From the aspect of the national economy, with the stated concern for and dedication to providing a quality education, nothing is more important than the professional disciplines that are offered to students entering a university, so that their diploma represents a *quality and liquid asset* tomorrow, which means that their professional skill is both sought and employable. There is a significant role for the state here. Through its agencies and institutions it can direct students to areas in which there are, or in which there will be, shortages in the labor market. A listing of well-paying professions that are expected to be most in demand on the US labor market (2002-2012) is as follows:

Table 3: Ranking of the Expected 10 Most Sought after Professions 2002-2012

1.	Medical assistants
2.	Network systems and data Communication analysts
3.	Physician assistants
4.	Social and human service assistants
5.	Home felt aides
6.	Medical records and health information technicians
7.	Physical therapist aides
8.	Computer software engineers
9.	Systems software
10.	Physical therapist assistants

Source: US Department of Labor, according to *The Financial Times*, July 28, 2005,
M. Lind: "Exploding the Myths of Global Competition," p.13.

This list may change over time and it may be added to, but the essential trend remains. This list is usually presented with another column showing the costs of schooling at individual universities, and with a column showing financial data on starting salaries for individual professions. This is frequently an important indicator because of the possibility to repay loans that are raised as part of the cost for investing in one's own education. And this is then a complete circle: quality education, market verification, with the highest quality investment, and not as a cost, that in a synergistic way is an element of personal advancement and a contribution to general economic and social development.

It should be noted that four of the 10 professions listed above require some knowledge and capability with computers. The active relationship toward acquiring new and adequate knowledge and skills is also a part of employment policy for that portion of a work force that has lost, or that will lose, its jobs due to outsourcing – for example, portions of the auto industry in the US and in some of the EU member states.⁴

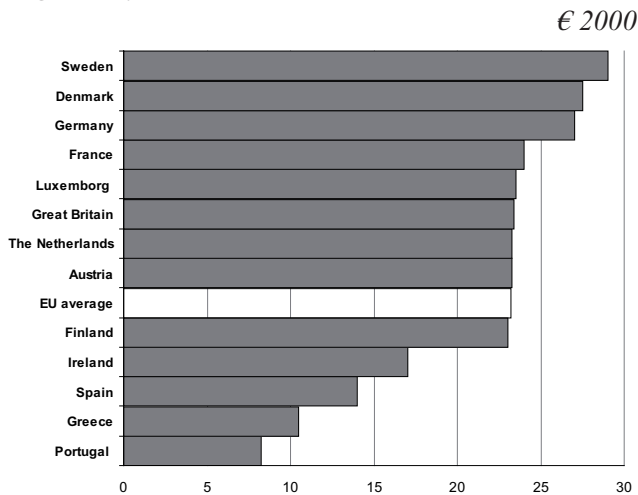
What kinds of new knowledge and to which sector a portion of the existing labor force should be redirected are questions of vital importance to economic and social policy. Hungary, for example, is in the process of attracting foreign investment (*brown field*),

⁴ For example, General Motors employed 14,000 workers in one of its domestic plants in 1978; today, less than 30 years later, that number is 2,500 workers. Another 80,000 jobs in General Motors, Ford and Delphi, the largest producer of auto parts in North America, will disappear in the next three years. Production is moving to cheaper locations in the Far East and Latin America. (Source: *The Financial Times*, June 15, 2006, p. 8.). These efforts should be also be considered comparatively. In China, 400,000 engineers with various specialties are graduated annually, in India 300,000, while in Germany about 40,000. And this is an additional reason for outsourcing and its increasingly greater presence in these regions.

in its automobile industry. Part of the work force from the existing metal industry is being redirected to agro-industrial production by managing the mechanism of the existing knowledge of part of the work force. In this way the technological base of the agricultural sector is enhanced, the high costs of equipment are avoided, as are the costs for early retirement and high long-term social expenditures, along with the additional stigma of social exclusion for that part of the workers who are not employed.

An additional dimension of the educational process, and its quality and its attractiveness to the labor market, lies in the fact that prosperous individuals, families and nations are based to a large extent on the level of wages that are achieved in individual areas.

Figure 2: Average Hourly Labor Costs



Source: The Financial Times, London, July 2, 2003, p. 11.

Labor costs per hour in developed countries are high, in both absolute and relative terms. They range from €28 in Sweden to €27 in Denmark, €26 in Germany (the western part), and €23-25 in Finland, Luxembourg, Great Britain, Austria, and the Netherlands. On average they are lower in Ireland with a per hour labor cost of €18, Greece with €11, and Poland with €8. The overall average for the EU is €23, which closely corresponds to average per hour labor costs in the US industrial sector of €23, and to Japan with average per hour labor costs of €22. This, then, is the whole sequence: the high costs of education and high labor costs demand production and products and services with a very high degree of added value, which can bear this level of costs.

It is also interesting to analyze the number of working hours in the labor markets of individual countries, the length of annual leave and the number of working days compared to holidays.

Table 4: Hours Worked and Holiday Entitlement (*data for 1999-2002*)

	Average hours worked		Average holiday entitlement	
	Per week	Annually	Vacation days	Statutory days
Japan	-	1,955	18	11
SAD	40.0	1,904	12	11
Switzerland	40.5	1,844	24	9
Greece	40.0	1,840	22	9
Ireland	39.0	1,810	20	9
Luxembourg	40.0	1,784	28	10
Portugal	39.0	1,768	22	14
Spain	38.4	1,722	23	14
Italy	40.0	1,720	35	11
Austria	38.4	1,720	26	11
Sweden	38.0	1,710	25	11
Finland	40.0	1,708	38	10
Belgium	37.0	1,702	20	11
Norway	37.5	1,695	25	10
Great Britain	37.5	1,692	25	9
Germany (eastern)	38.3	1,685	30	11
Netherlands	37.5	1,670	31	7
Denmark	37.0	1,650	29	9
France	35.6	1,605	25	11
Germany (western)	35.7	1,557	30	13

Source: The Financial Times, London, July 2, 2003, p. 11

The number of working hours is highest in Japan, the US and Switzerland; the shortest in Denmark, France, and Germany (western). The smallest number of vacation days is in the US (on average just 12 days!) and in Japan (18 days); the largest number is in Finland (38 days) and Italy (35 days). The most holidays are in Portugal (14 days) and Germany (western) (13 days), and the least are in the Netherlands (seven). The positions are different and dependent on the negotiating strength of labor and capital; by the influence of the state and of labor legislation (*vacation days and holidays*). The level of productivity is determined by a series of external and internal variables that ultimately influence the

competitive position of an individual sector and of the national economy in general.

1.2. Legislation and Labor Relations

Industrial relations and labor legislation that accompanies them, collective bargaining, the average annual number of working days spent on strike in individual countries, is always an open area for theoretical discussion. Moreover, they are also factors with a vital influence on the global competitive position of individual national economies.

The fact is that the share of temporarily employed people in the overall number of newly-employed people is growing more and more.⁵ By employing people for a limited period of time, companies can control costs more effectively, and they can react more quickly and better to fluctuations in the demand for their goods and services. With this accelerating use of part-time employment, there is also a parallel processes at work in which developed countries are trying to maintain employment within their own borders, which means in areas where wages are high.

*“In order to keep employment in high-wage areas, it is necessary to include more high-value components, and this again requires flexibility in the workforce in terms of skills previously acquired, a willingness to upgrade these skills constantly, and a readiness to leave jobs while upgrading skills. This could be seen as personal risk-taking, but is, in reality, a survival strategy... Northern Europe is clearly doing best in employing its workforce, and this is most likely due to the less rigorous regulation of its labor markets. It is very difficult to change the workforce - for example, to alter the make-up of skills - in Continental Europe, but this is quite easy in the Nordic and Anglo-Saxon models.”*⁶

In this context, the reform of the labor market introduced in Denmark in 1994 is extremely inspiring. This reform was based on the conviction that the creation and offering of jobs has to remain, as much as possible, free from over-regulation.

*“Those out of work receive generous welfare benefits and highly targeted active employment support (training, job search facilities, etc.), which both encourage and compel the unemployed to seek new jobs as rapidly as possible. Denmark now spends up to 5.2% of its GDP on labor market policies, including extensive retraining programs for the unemployed. As a result, the average time spent out of work by the unemployed in Denmark is among the lowest in all developed economies. This, in turn, allays feelings of job insecurity, as most Danes remain confident that they will be actively supported in finding new jobs in the event that they are unemployed.”*⁷

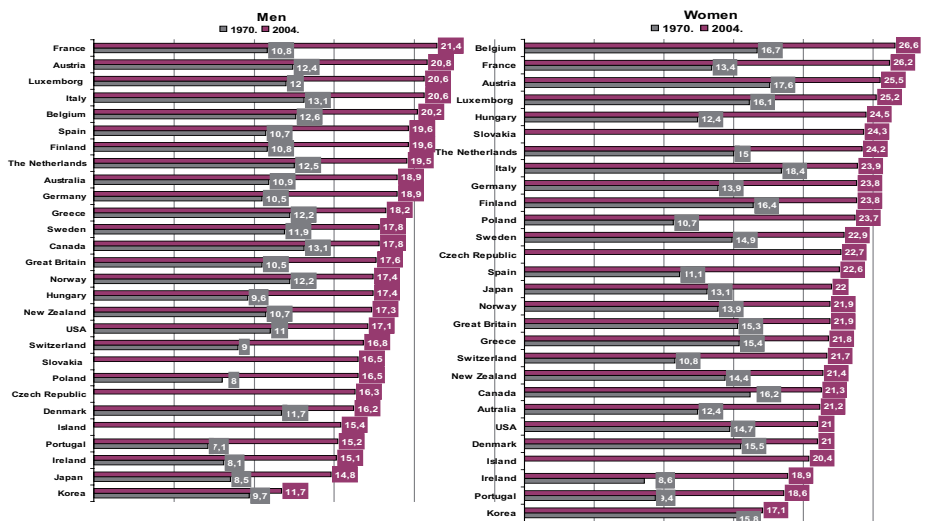
⁵ So, for example, in Croatia in 2005 of the total number of newly-employed, only 12.1% of them were hired permanently, 14.8% were seasonal hires, and 72.2 % were temporary hires (Source: Document of the Croatian Employment Bureau (HZZ), Zagreb, (www.hzz.hr))

⁶ Source: Growth and Jobs, EPC Working Paper No. 20, September 2005, p. 23

⁷ Source: *ibid*, p. 30.

Such an orientation, such a policy and such achievements which ensure maximum flexibility to employers, and maximum security to workers in terms of their employability, are clearly expressed in the overall competitive positions of these countries. Among the first eight countries in that ranking are Denmark, Norway, and Finland; Sweden is in 11th place, Ireland in 12th place, and the Czech Republic is in 18th place. Countries with more rigid labor legislation, and with a different kind of orientation to labor market relations, are ranked considerably lower (Italy, France, and Poland). Leading the rankings, in first and second place are Singapore and Hong Kong, extremely highly developed city-states, which also have extremely well-balanced relationships between labor, capital and the state.

Figure 5: Labor Relations



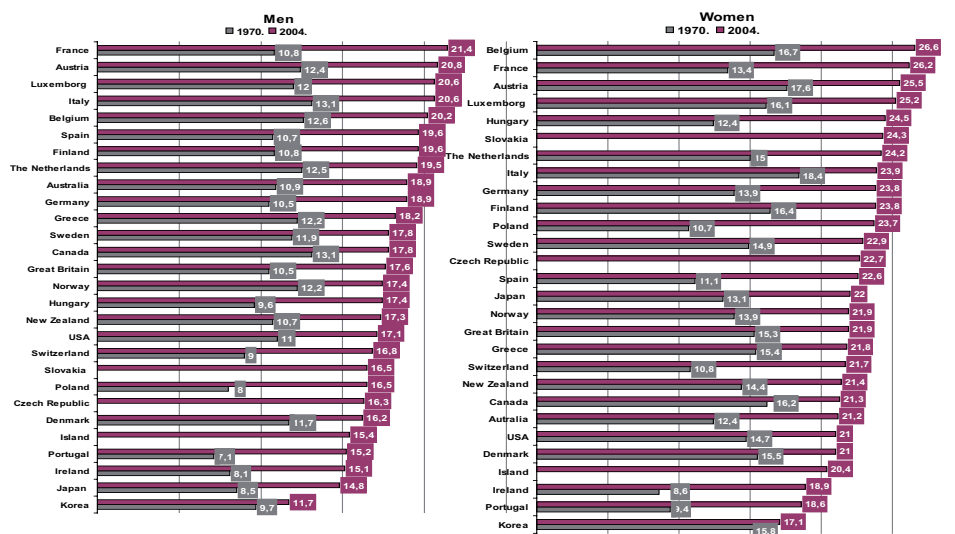
Source: Stephane Garelli: *Top Class Competitors: How Nations, Firms and Individuals Succeed in the New World of Competitiveness*; John Wiley and Sons, Chichester, 2006, p. 84.

Substance is the interest of all, including employees, not at the level of static and formal protection of an existing situation, or in general changes, but rather in an overall feeling of security, so that in the event of losing a job, each individual will be helped in an organized way (re-schooling, and financial assistance for that purpose, etc.) in acquiring new knowledge and in finding a new job as quickly as possible.

1.3. Employment and Retirement

One trend in the labor market that is increasingly a centre of attention in mid-term and long-term assessments is that of an aging population within the contingent of the employed. This includes the number of years that retirees expect to remain in the pension system and the fiscal burdens that this places on society, in other words, inter-generational solidarity and the level of the burden on public consumption by these expenditures. The most recent OECD study that has focused analysis of this phenomenon points to completely new trends.

Figure 6: Expected Years in Retirement



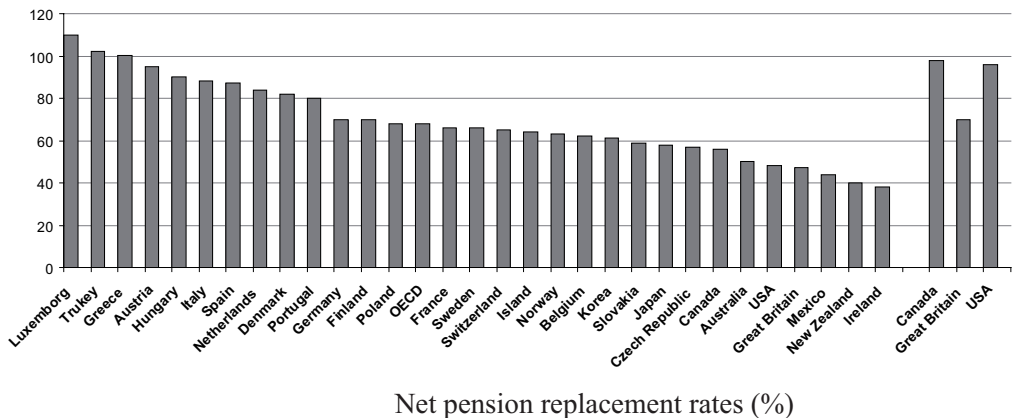
Source: «Live Longer, Work Longer», OECD Study, Paris, 2006, p. 33.

The data above deserve further analysis. The average amount of time spent in retirement for men in Finland in 2004 is twice what it was in 1970, increasing from 10.8 years to 21.4 years. In Austria, Italy, Luxembourg, and Belgium it is also over 20 years. In France, Spain, the Netherlands, Germany, and Greece it is only slightly shorter, while the amount of time spent in retirement in Portugal, Ireland and Japan has also doubled.

The amount of time that women spend in retirement has also shown a drastic increase, even though they retire earlier and spend a longer time in retirement. Women today spend on average more than 25 years in retirement in Belgium, France, Austria, Luxembourg, and only a few months shorter than that in Hungary, Slovakia, the Netherlands, Italy,

Germany and Poland. In the US the figure is 21 years compared to slightly less than 15 years in 1970. The increase in the number of years in retirement among the overall population of retirees correlates with an increasing absolute number of retirees. From a financial viewpoint, there is still one other synergistic variable: a higher average pension compared to wages earned before retirement.

Figure 7: Pensions are much more generous in some countries than others



Source: «Live Longer, Work Longer», OECD Study, Paris, 2006, p. 58

The amounts vary considerably: in Luxembourg and Turkey the values are greater than the amount of income before retirement, then 90 percent of income in Hungary and Italy, and 70 percent of income in Finland, which is the overall average of OECD countries. In the US this proportion amounts to 50 percent of income, while in Ireland it is something less than 40 percent. The US percentage can be raised to an exceptionally high 90 percent of income before retirement through additional voluntary payments (self-saving). It is similar in Canada, where that additional payment can raise the amount to 70 percent of income before retirement. It is clear that pension amounts compared to income from employment are a powerful factor in making the decision when to retire. This is especially true if it is linked to other inducements by employers or other government agencies. It is most frequently connected to the restructuring of specific branches of an industry, or in organizational changes and modernization processes in parts of public administration.

Globally and locally, labor markets and the effects that they achieve are becoming increasingly more demanding. Entry into the labor market, or survival in it, means starting with an adequate education, and in the course of employment, receiving additional specialized education. The level of education will determine the ability of an individual

to create new value. These qualifications will also determine the position of this same individual in the economic and social sphere. Taken collectively, the level of overall qualifications will determine the competitive position and the capability of the national economy, and it will influence the level of GDP, in absolute and relative terms. These trends do not know and do not recognize national boundaries, but they come back to them with concrete results or consequences.

2. CROATIA

The above trends, evaluations, and ideas from developed countries in regard to education, employment, the regulation of the labor market and the social costs of early retirement, are extremely important for Croatia's competitive position and its prospects for development.

2.1. Education

For decades, the quality and structure of higher education in Croatia lay outside the focus of *mainstream* political and economic thinking in the country. Inertia, along with an unrealistic conviction that the existing position of education was secure -- because it was viewed until 1990 as a better quality education than in most of the rest of Yugoslavia -- is partly the reason for the self-satisfaction shown in this area. The quality of education as a category *per se*, and further, the demand for quality and quantity in education, lagged behind other areas because of the passive method of restructuring the Croatian economy, which specifically meant the firing or forced retirement of employees instead of holding onto the existing programs for the production of goods and services, or adopting new ones.

In addition, and this is extremely important, throughout the recent past four-fifths of foreign investment was *brown field* investment, the purchase of existing capacity, and only one-fifth was *green field*. This means that in contrast to the majority of other transition countries, and of course in contrast to developed countries, the demand for the employment of a work force trained and educated in a focused, professional manner in accordance with globalization trends, has lagged behind.⁸

The importance of qualitative growth is one of the dominant themes in the formulation of any strategy of economic development. Based on situation at the beginning of 2000, a document of the World Bank, "*A Strategy for Economic Growth through European Integration*," in regard to the effectiveness of Croatian labor points out:

⁸ To this list can be added the powerful influence of political arbitrariness where management by state and local budgets and by the privatization process has had considerably greater influence on businessmen and companies, from investment in education to hiring professional staff.

“Workers without the appropriate qualifications, especially those without the ability to acquire the necessary qualifications, will not only expand the ranks of the long-term unemployed, but will limit the potential for restructuring an enterprise and the growth of stimulative innovation. The strategy of education, therefore, is an integral part of social strategy and the strategy of growth.” “The second step in the proposed strategy of growth is the need to revamp education standards, as well as technological and organizational standards, that will allow Croatian firms to compete in European markets. This requires an examination of the role of the state in education. With regard to the nature of the shortcomings in education in comparison to the demands of the labor market, it is clear that the state has a role in financing education, a regulatory role and a role in providing information. If it is assumed that all levels of education produce certain positive external effects in the community, the state has a role in financing at all levels.”⁹

Awareness of the need to change the educational system, the creation of endogeno (within Croatia) and exogeno (pressures for development from international institutions and organizations), gradually has formed an element of national development policy and, at the same time, a part of the process of adjusting to EU integration.

“Croatian education priorities have been gradually redirected in order to respond to the needs of a free market economy and have improved the quality of the system of education and training. The area which requires special attention is the teaching of foreign languages in elementary and secondary schools.”¹⁰ And further: “A serious challenge is represented by the Croatian system of professional education and training (PET) at the secondary school level. The PET strategy has started and the reform process has begun, including the establishment of the National Council for Professional Education and Training. However, the efforts made under the present reforms seem to be insufficient in overcoming problems like the shortage of professional teachers, outdated programs, insufficient investment, shortcoming in the system of national professional standards and professional training, and an inadequate linkage to the private sector. Improvement in this area will represent an important component in the fight against unemployment.”¹¹

Such a transformation in the understanding of education not only for success but also for self-sustainability in the global economy and society that has been established in the last 10 years, in principle, has been adequately recognized in the Croatian development document, “A Strategic Framework for Development, 2006-2012. In Chapter II of this document the following important goals have been defined:

⁹ “Economic Memorandum for Croatia: A Strategy for Economic Growth through European Integration,” The World Bank, Volume 2, May 2003, Part VI, p. 120.

¹⁰ “Findings on the Request of the Republic of Croatia for Membership in the European Union,” Commission of the European Union, Brussels, 20 April 2004, p. 98.

¹¹ *ibid*, p. 98.

- Education and enabling the work force to adapt to the changing needs of the labor market, to increase the proportion of college graduates in the overall population.
- To reduce the number of those who temporarily abandon education, and especially higher education. To increase expenditures for education, but also the effectiveness of current expenditures.
- To encourage the participation of the private sector in financing both regular education and advanced job training.

The basic attitude is that: *“It is necessary to accept a certain degree of flexibility (Author’s Comment: in the labor market, for example) but also to construct a system of education that protects employees much better from unemployment and the poverty of simple legal regulations. To respond to the concrete challenges in conditions of unquestioned openness and globalization means to learn and to improve oneself throughout one’s working career and in that way to maintain and increase the employability of every individual. The aspiration for long-term employment and for long-term job security has to be replaced by the aspiration for long-term employability. However, it is just in the area of life-long education where Croatia is considerably lagging behind the European average. According to polls on the labor force, 10.8 percent of the European population has participated in some form of education and training during its working career, while in Croatia the figure is 2.3 percent.”*¹²

The fact that possession of an adequate education is a crucial question for protecting not just one’s existing job, but, dynamically considered, one’s long-term employability is evident from the importance that developed countries attach to education after one has achieved a degree of formal education.

The European Union is increasingly speaking about social exclusion, which is most frequently understood as a vicious circle with three components: unemployment, poverty, and social isolation. Social exclusion is usually understood as exclusion from the labor market. When the role of labor is emphasized, it means not just labor as the basis of economic independence, but in the sense that work promotes certain moral values, such as self-respect, a desire to advance, etc. The message in a large number of EU documents is that education is one of the key mechanisms for social inclusion. The message is based on the claim that employment is an important precondition for social inclusion, and that the degree of employability is linked to the possession of qualifications and training. The meeting of the European Commission in Lisbon in 2000 shaped the strategy for the fight against social exclusion. The following factors influence social exclusion and education itself: income inequality, class and/or ethnic divisions in society, spatial separation, globalization, the distribution of power, the stratified nature of the market, education, etc.

¹² “A Strategic Framework for Development, 2006-2012,” Republic of Croatia, State Administration for Development Strategy, 21 April 2006, p. 14.

All employees do not share an equal probability for employment because their various characteristics can influence the probability of employment. Therefore, in periods of economic growth the “circle of poverty” remains tightly closed. Those who are in poverty often appear as “outsiders” on the labor market, which means that due to inadequate human capital (a low level of education and inadequate training) they are not able to take advantage of the possibilities arising from economic growth. In this way long-term unemployment comes to be considered as a significant determinant of social exclusion. About half of those who are unemployed in Croatia have been waiting for a job for more than a year, and about 30 percent have been unemployed for more than two years. While in 1991 nine percent of those who were unemployed waited an average of more than three years to be employed, in 2002 more than one-quarter (26.5 percent) waited an equally long period of time.

In the majority of European countries policies governing the labor market and education are classic areas for state intervention and the development of neo-corporate arrangements in which the state surrenders responsibility for the creation and implementation of policy to interest groups representing labor and capital. The reason for this is that employers, if there is no intervention, train employees only for their immediate needs, which might be damaging to their long-term profitability and economic results.

Three main assumptions stand behind the policy and initiatives of the European Commission regarding education. First, it is assumed that for the goal of competing on global markets the EU needs a well-trained and well-educated work force. The second assumption is that differences in the qualifying systems of the countries represent the main obstacle to the free movement of labor and this is the basis for a comparison that establishes equivalents of basic and professional education received in various countries. And finally, the restructuring processes initiated within a unified market, with all of its regional inequalities, demand active policies for the labor market and regional politics from the member countries.¹³

2.2. The Labor Market - The Role and Meaning of Regulations

For a long time Croatia was among those countries having the strictest regulations on employment protection, both in comparison to transition countries as well as “old members” of the EU and OECD countries.¹⁴ Such a situation is measurable in the high value of the composite index -- Strictness of Employment Protection Legislation (EPL)

¹³ According to the “The Social Dimension – Employment Policy in the European Community”, ed. M. Gold, The Macmillan Press, 1993, pp.188-190

¹⁴ Changes to the Law from 2001 and 2003.

-- devised by the OECD.¹⁵

The OECD uses the concept of Employment Protection Legislation (EPL) generally in the context of legislation to protect employment. The concept relates to many different measures to protect legislation, whether they are based on legislation, judicial rulings, conditions for collective bargaining or customary practice.

Table 5: Strictness of Employment Protection Legislation in Croatia and in Countries of Central and Eastern Europe Entering the EU (CEEEUA

Country	Strictness of EPL			
	Permanent Employment	Temporary Employment	Collective Dismissals	Summary Index
Croatia	2,8	3,9	5,0	3,6
Czech Republic	2,8	0,5	4,3	2,1
Estonia	3,1	1,4	4,1	2,6
Hungary	2,1	0,6	3,4	1,7
Poland	2,2	1,0	3,9	2,0
Slovakia	2,6	1,4	4,4	2,4
Slovenia	3,4	2,4	4,8	3,5
CEEEUAC Average	2,7	1,2	4,1	2,4
EU Average	2,4	2,1	3,2	2,4
OECD Average	2	1,7	2,9	2,0
CEEEUAC Minimum	2,1	0,5	3,4	1,7
EU Minimum	0,8	0,3	2,1	0,9
OECD Minimum	0,2	0,3	0,4	0,7

Source:: "Economic Memorandum for Croatia: A Strategy for Economic Growth through European Integration," *The World Bank, Volume 2, May 2003, based on OECD data, p. 127.*

It is evident that regulations on employment protection are stricter in Croatia than in other transition countries, which are characterized by low unemployment and a flexible labor market. These countries include, for example, Hungary, Denmark, Ireland, and the Netherlands. The data show that strict protection of employment cannot prevent high unemployment, but can provide a more flexible labor market, along with corresponding

¹⁵ "Economic Memorandum for Croatia: A Strategy for Economic Growth through European Integration," World Bank, Volume 2, May 2003, Paragraph 6.23, p. 127

development capacity, and consequent to that, measures of economic policy.¹⁶

Evaluation: *“Strict regulations on employment protection and the high costs of firings contribute to and are responsible for the results observed in the labor market, such as the small number of available jobs and employment, long-term unemployment and a low rate of “escape” from unemployment, and a concentration of unemployment in groups of workers in difficult circumstances. On one hand, strict regulations on employment protection de-stimulate entry into a (Scarpetta, 2002). On the other hand, the high cost of dismissals de-stimulates employment because employers are limiting the employment of staff in order to avoid the future costs of modifying the number of employees to changes in the demand for products (OECD) 1994). In this way, limited employment is a mirror image of limited firings. By preventing the job cuts and the creation of new jobs, strict EPL limits job fluctuations. As a consequence, both the length of employment and the length of unemployment have a tendency to last longer. The prospects for escaping from unemployment are less in a dynamic labor market with high job fluctuation. In combination with the effect on a discouraged worker, this leads to a low ratio in the number of employed in the population, especially among groups of workers in difficult circumstances, such as the young, women, and older workers, and therefore to an under-utilization of labor resources.*¹⁷

The solution to the Croatian dilemma -- how to achieve its development goals and needs, treating labor legislation as an obligatory part of the mosaic of required actions -- may be suggested by the experience of India, which from the beginning had a series of advantages (economy of scale, a high proportion of educated people, competitive labor costs), and which recently conducted research has shown:

*“It is not an accident that software businesses and outsourcing companies are exempt from a considerable portion of labor legislation, such as the number of working hours and overtime work. The management of these companies have stated that without these exemptions it would be impossible to organize back office (activities) in India. In order to attract foreign investors in labor intensive activities, the government has to consider the possibility of making legislation more flexible.”*¹⁸

Croatia, for example, analyzing its (current) economic structure and the importance that it (un)justifiably places on the tourist industry as one of the key sectors of the national economy, must soberly evaluate how to regulate this area. In summary, Croatia in a development sense is faced with several limitations, the solution of which could strengthen

¹⁶ Stated more descriptively, when driving a car, a driver is not protected from an accident by an insurance policy he/she may have bought, but by his/her ability to find adequate solutions or to react to the external events while driving when circumstances in traffic are constantly changing.

¹⁷ “Economic Memorandum for Croatia: A Strategy for Economic Growth through European Integration,” The World Bank, Volume 2, May 2003, Part VI, p. 128.

¹⁸ The McKinsey Quarterly 2004 Special Edition: “What Global Executives Think,” Chicago, 2004, p. 34

the foundation of its development potential.

First, based on criteria of the International Labor Organization (the proportion of employed population in the labor contingent), the employment rate for those between the ages of 15 and 64 is at the limit of 50 percent. Of 3.66 million people capable of working, 1.8 million are actively employed. In the EU this ratio is 64.4 percent and in the US it is 71.2 percent. In Croatia, 1.58 million people are employed. The difference to a full labor contingent is in those seeking employment.¹⁹

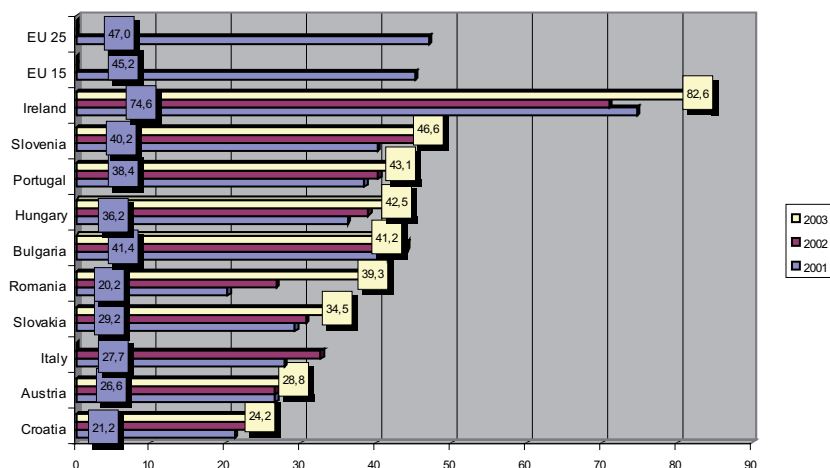
Second, as of May 2006, there are 1,034,507 retirees in Croatia, which means that the ratio of employed to retired is 1.5:1.0. In the EU today that ratio is 4:1. The EU considers a continued trend in that ratio, which is expected to be 2:1 by the year 2050, to be financially and socially extremely risky and completely unsustainable. In Croatia the average monthly net amount of a pension is 1,860 kuna (after taxes and surcharges), which represents 39.7 percent of the average personal income of workers. The pensioner insured person ratio is 1:1.43.²⁰ In the number of pensioners, and their expected life span, it is recognizable to what extent the restructuring of existing enterprises and institutions has placed a burden on the retirement system.

Third, in Croatia among those aged 15 years and above, only 7.8 percent have a college degree, which is below the EU average. It is a cause for concern that Croatia is behind countries in a comparable state of transition in the number of students who graduate from institutes of higher learning.

¹⁹ The number of unemployed is represented on the basis of two methodologies: a) the unemployment based on ILO criteria – stricter criteria and a lower unemployment rate demand an active attitude in terms of seeking employment; b) data from the Croatian Employment Bureau – based on administrative reports on the status of the unemployed.

²⁰ Data for July 2006 (www.mirovinsko.hr).

Figure 8: Students Graduating from Higher Education Institutions*, per 1000 Population between the Ages of 20 and 29



Source: "Annual Report on Croatian Competitiveness, 2004," Zagreb, 2005, p. 67.

In regard to inclusion in the system of continuing education and professional training, participation in such programs at the national level is considerably lower than the EU average. The data in Table 6 shows very clearly that the inclusion of adults in life-long education is four times lower in Croatia than the average for the EU 25.

Table 6: Number of Adults in Life-Long Education

	2002.	2003.
EU 25	8	9
EU 15	8	9,7
Slovenia	9,1	15,1
Ireland	7,7	9,7
Austria	7,5	7,9
Hungary	3,2	6
Slovakia	9	4,8
Italy	4,6	4,7
Portugal	2,9	3,7
Croatia	1,5	2,1
Bulgaria	1,3	1,4
Romania	1	1,3

Source: "Global Competitiveness Report, 2004," Resource Material, National Competitiveness Council, Zagreb, 2005, p. 70, based on the EU Workforce Survey, 2004, **Aralica i Bačić (2004)

More adequate legal regulations, organized stimuli for continuing education, better quality and more adequate choice of professional and higher education, and a better dialogue between labor, capital and the state, viewed overall, are the essential conditions for employment and employability in Croatia to change from a current problem to an important opportunity for development.

CONCLUSION

1. The globalized world and today's competition of "every man for himself" has drastically accelerated and sharpened all of the processes for managing development at the national level.

At the same time, these processes of globalization at the national level to a great extent are creating a development deficit, and as a consequence, deficits in public expenditures to those who are not optimizing their educational systems in accordance with the current and future needs of the labor market.

2. The developed countries are continuing to increase their already high level of investment in all levels of education, but especially at the tertiary level. In addition, they are increasing the levels of investment in follow-on training and re-training, as well as long-term professional training.

3. After a long period of being preoccupied with the problems of its own existence -- beginning with the aggression and war to independence and rejuvenation -- Croatia has directed its attention, after a 10-year delay, to the educational process in the framework of a new, independent state. It is today attempting to redefine and remodel that system to meet the needs of its economic growth and development. This means a greater focus, increased financial investment, and an approach to education as a factor for growth, and not as a cost.

4. The only real chance for protecting the labor market, which is increasingly open to the pressures of open competition (whether from outsourcing or from the influx of outside workers into the domestic labor market) is adequate education. This is an expertise for which there is a demand and which enables flexible changes as well as a relative and absolute improvement in one's own position, which, at the end of the day, is assessed both in terms of status and materially. It is an active measure that ensures employability, and as such, it has the greatest meaning for the labor market.

An exemplary legal framework, and its implementation, along with any necessary corrections, has to be created jointly with the participation of labor, capital and the state. The responsibility of state institutions in controlling this implementation is especially important. But, still greater is both the immediate task and the responsibility of state institutions in organizing and achieving an active role in promoting changes in the education of those who are entering the labor market, or those who are (currently) leaving it. This is the *best practice* of the so-called *Nordic model*, which is a particular interest and importance (i) for the Croatian economy; and (ii) Croatian society in general.

5. Croatia cannot ignore the resource that today is the most dominant in development: a well-trained and well-educated work force and an active management. This is the driving force that animates and moves all of the other factors of development. Keeping in mind the country's demographic structure (evident aging of the population, permanent emigration, often of the most qualified) it becomes Croatia's *sine qua non* to make a transformation in three mutual and inseparable segments:

a) To improve the quality at all levels of education, especially for those who are in the final stages. To increase significantly, in relative and absolute terms, the participation of the school-age population in adequate technical training schools and in tertiary education.

b) To formulate and to stimulate participation in adequate programs for additional professional training and re-training of segments of the working population that fall into vulnerable groups (women, young people, older workers), and generally to orient education and training toward those whose existing professional qualifications and knowledge cannot meet current market demands.

At the same time, to evaluate the circumstances of defensive regulatory policies in the labor market, which in an attempt to protect against losing a job frequently and to an even greater extent prevent new employment. And, all discussions about labor legislation to reduce (un)paid work on Sundays and holidays are pointless.

c) In the last 10-15 years leaving the labor market frequently has been (ab)used in the privatization process, or it has been used when and where possible as a quasi measure of social policy replacing the right to continue to work -- even though this latter idea is closely linked to point (b) above, that is, the need to acquire additional knowledge. Employees who wish to keep working point to the fact that by stopping to work they receive only 39.7 percent of the income they would receive by continuing to work.

6. The stability of the ability to be employed -- *employability* -- in an era of increasingly greater openness, change, and overall flexibility, is an important social value. But, viewed in a broader context, the long-term increase of GDP, both per capita and in absolute terms, is only possible by achieving a development policy that simultaneously takes into consideration all factors of development and applies them synchronistically. This begins with macroeconomic policy, with a policy of attracting investments and investors, with an adequate economic framework and an efficient public administration, and finally and most emphatically, with an education policy that is viewed as a vitally important factor in the success of the labor market.

LITERATURE

1. "A Strategic Framework for Development, 2006-20012," Republic of Croatia, Central State Office for Development, Zagreb, 21 April 2006.
2. Economic Memorandum for Croatia, "A Strategy for Economic Growth through European Integration," The World Bank, Volume 2, July 2003.
3. "Findings on the Request of the Republic of Croatia for Membership in the European Union," The Commission of the European Union, Brussels, 20 April 2004.
4. "Live Longer, Work Longer," OECD Study, Paris, 2006.

5. "Growth and Jobs," EPC Working Paper No. 20, September 2005.
6. The Financial Times, London, July 2, 2003, p. 11.
7. US Department of Labor, from The Financial Times, London, July 28, 2005, M. Lind, "Exploding the Myths of Global Competition," p. 13.
8. The Wall Street Journal Europe, June 19, 2001, p. 26.
9. The McKinsey Quarterly - 2004 Special Edition: *What Global Executives Think*, Chicago, 2004.
10. "Social Capital: Its Origins and Applications in Modern Sociology," Alejandro Portes; Annual Review of Sociology, Vol. 24, 1998.
11. LaborLawTalk Dictionary http://dictionary.laborlawtalk.com/Social_capital
12. "World Competitiveness Yearbook 2006," International Institute for Management Development, Lausanne, 2006.
13. Eurostat, europa.eu.int/comm/eurostat/
14. "Annual Report on Croatian Competitiveness, 2004," National Competitiveness Council, Zagreb, 2005.
15. Croatian Office for Retirement Insurance, www.mirovinsko.org
16. OECD, www.oecd.org
17. "Poverty, Unemployment and Social Exclusion," United Nations Development Program (UNDP), Zagreb, 2006.
18. "Education in Croatia on the Brink of the 21st Century," Z. Jašić, in the collection, "The Croatian Economy in the 21st Century," Matica Hrvatska, Zagreb, 2000, pp. 195-203
19. Croatian Employment Bureau, www.hzz.hr
20. "GIK 2004" – NCC, Zagreb, 2005. page 70, from EU, Labour force survey, 2004, **Aralica and Bačić (2004)
21. "The Social Dimension: Employment Policy in the European Community", ed.M. Gold, Macmillan Press, 1993, pp. 188-190.

SHOULD DRACULA MYTH BE A BRAND TO PROMOTE ROMANIA AS A TOURIST DESTINATION?

Smaranda Cosma, PhD Lecturer, Cornelia Pop, PhD Professor,
Adina Negrusa, PhD Lecturer
Faculty of Business, Cluj-Napoca

ABSTRACT

Dracula is an international brand, not a Romanian one. But Bram Stocker chose to locate his vampire in the mysterious location of Transylvania. Thus, Romania is the only country in the world which can exploit the myth of Dracula as being at its 'home'. This could be considered a competitive advantage for Romania as a tourist destination.

The vampire named Dracula generates mixed, mainly negative, feelings among Romanians. And maybe – for the 21st century – can become a character falling in desuetude.

Though, the question remains: should the Dracula myth be used as a brand promoting Romania as a tourist destination?

The present paper tries to find an answer to this controversial question.

Key words: brand, Dracula, tourism, destination, product, Romania

INTRODUCTION

As we highlighted in the abstract, Dracula is not a Romanian brand. Romania – through its region Transylvania – got in the delicate and controversial position of being 'the home of Dracula'. This position resulted from the Bram Stoker's book *Dracula* published in 1897.

It is now admitted that Stoker never visited Transylvania and he used writings of his time (Light, 2005) to create a mysterious space for his vampire Count Dracula. For his book at least two sources of inspiration were used (Gruia, 2005): a book with the title *Transylvanian Superstition* wrote by a Scottish woman, Emily de Laszowska Gerard, and published in 1885 – which inspired the location; and a book published in 1820 and written by William Wilkinson, former British consul in Bucharest, *An Account of the Principalities of Wallachia and Moldova* – which inspired the name chosen for the vampire, Dracula.

For the first 3 more decades of the 20th century, the book was not known worldwide; the 'launch' of Dracula as a brand (even at that moment no one could anticipate how popular Dracula would become) was in the first movie made in Hollywood in 1931 using the Stoker's book as inspiration. The notoriety of name Dracula grew ever since.

At least other 3 decades passed by – due to the situation in Europe before the Second World War, the World War and the reconstruction period of the 1950s – before a clear connection was made between Count Dracula and the Romanian voivode/ lord of Wallachia of mid 15th century - Vlad Tepes¹ (see Miller, 2002). Several sources (Miller, 2002, Light, 2005 and Rezachevich, 2005) explain how the negative campaign conducted by the Hungarian king – Mathias Corvin – and by German chroniclers of the 15th century, portrayed Vlad Tepes, the Impaler, as one of the cruelest person of all time. For those with a real interest in history, Vlad Tepes was a man of its times, punishing the people who did wrong with the methods commonly used during the 15th century (Rezachevich, 2005).

The association of Count Dracula with Vlad Tepes was rejected by Romanian people for many years. Romanians consider the voivode an important historical figure, almost a hero, who fought for the independence of Wallachia against the Ottoman Empire, against the Hungarians and against the Tartars. The association between Vlad Tepes and Dracula was only enhanced by the book written by R.Florescu and R.McNally, *In Search of Dracula* and published in 1972 (Miller, 2002).

The mix between the historical personage and the fictional Dracula triggered, and still triggers, a negative feeling among Romanian people who do not want Vlad Tepes to be seen as a vampire. Another reason which explains the attitude of rejection of Count Dracula is the fact that in the Romanian folklore the vampire does not exist and this fictional personage is associated with Western cultures. However, in the Romanian folklore the evil spirit is present. It is named ‘strigoi’ - in English its best translation is *ghoul* – but this does not have a human body and has no similar features with a vampire.

Dracula is a negative character and Romanians had (some still have) difficulties in separating the fictional personage created by Bram Stoker and the historical figure of Vlad Tepes. This is the most important obstacle to overcome when the use of brand Dracula in connection with Romania as a tourist destination is proposed.

The idea of this paper emerged in connection with two things: the endless – and for the moment without result – discussions which took place during 2005 on the project Branding Romania; and the fictional book *The Historian*, by Elena Kostova published during the same year and which popularized the Dracula myth again.

A lot of literature has been written on vampires, on Count Dracula specifically and on the historical figure of Vlad Tepes, but it does not connect directly with the topic of our

¹ He was born (presumably) in Sighisoara as the son of Vlad Dracul. He became the lord/ ruler (or voivode) of the Principality of Wallachia in 1448, between 1456 and 1462 and in 1476. Vlad Tepes is also known as Vlad the Impaler. The surname Dracul, inherited from his father seemed to derive from the fact that the men from the family were member of the *Order of the Dragon*, an organization which fought against the Ottoman Empire expansion. Because in the 15th century Romanian language had no word for *dragon*, it was translated ‘dracul’.

paper². Though, very few studies were made regarding Dracula name and tourism on this theme in Romania, because it was and is a delicate subject. The author of those studies is Duncan Light, Associate Professor in Human Geography at Liverpool Hope University.

MATERIAL AND METHOD

For the present study we used:

- exploratory research through which we obtained secondary data from published materials and web sites;
- descriptive research which generated primary data from a questionnaire applied to a small group of foreign tourists who arrived in a determined period of time in one of the possible location for the Dracula myth; the sample used is not representative from the statistical point of view; the representativeness of this sample could not be established because the total population³ is very difficult (almost impossible) to be established; the difficulty comes from two sources:
 - ✓ a complete list of the tourist products including the name Dracula (either as tours for groups or personalized products) is almost impossible to generate due to the fact that not all the products are presented or advertised;
 - ✓ tourists who come in Romania for other purposes – business or other forms of tourism – can use by chance or occasionally the products including the name Dracula, but the statistical data would consider them by their declared goal and not by the secondary ones.

RESULTS AND DISCUSSIONS

In our study we considered that only 3 books are important for the connection between the brand Dracula and Romania as a tourist destination. Their importance arise from the way they influenced and could influence this relationship and by the fact that those book express the visions of the end of 19th century, the mid of 20th century and the beginning of 21st century.

Those three books are:

- *Dracula* by Bram Stoker, published in 1897; this book represents the starting point for the spreading of Count Dracula myth all over the world, with the help of Hollywood films since 1931⁴;
- *In Search of Dracula* by R.Florescu and R.McNally, published in 1972; this book could be considered the starting point for tourists' interest in Dracula tours – in search of

² For more information on these subjects please see at least Elizabeth Miller books: *A Dracula handbook*, *Dracula: Sense and Nonsense* and *Dracula: Shade and Shadow*.

³ The total population represents the total number of tourist who was in contact and expressed their interest for the (tourist) products which include the name of Dracula.

⁴ In the first Hollywood film of *Dracula*, the Count part was played by Bela Lugosi, born in Transylvania at Lugoj - now a small town in Timis County (Iancu, 2005). This 'coincidence' generates a stronger link between Transylvania and Dracula.

the vampire Count - in Romania;

- *The Historian* by Elena Kostova, published in 2005 – which presents the Dracula myth from a different perspective, and makes a better mix⁵ between the myth and the history; it could be a model on how the Dracula myth should be exploited from now on.

In the next paragraph we will try to present – briefly - what has been done in Romania to exploit the myth of Dracula.

We must stress the fact that the Bram Stoker's book *Dracula* was almost unknown in Romania during the communist period. The first 'tourist product' connected with Dracula started to be developed after the book *In Search of Dracula* was published and an increasing number of foreign tourists arrived in Romania asking about Dracula (Gruia, 2005). The success of this second book generated, at first, a negative reaction from Romanian communist authorities and – as a result – they tried to present to those foreign tourists, who were asking about Dracula, the historical figure of Vlad Tepes; the tours were concentrated on Wallachia and Romania history. It is no surprise that the tourists were disappointed and not interested: they were looking for 'their vampire' (Gruia, 2005; Iancu, 2005). Not understanding what the foreign tourists were looking for - a fictional personage named Dracula - the Romanian communist authorities felt in the other extreme. They changed the theme of the tours and started to present Romanian folklore, superstitions and frightening experiences (Gruia, 2005; The Diplomat, 2006). The length of such a tour was supposed to be of 6-7 days, but some sources (Gruia, 2005) indicated that the foreign tourists lost interest in this particular and peculiar subject and an average tour was no longer than 3-4 days. After trial and error, between 1976 and 1977, a combination of historic and fictional tours was offered to those who expressed their interest on Dracula myth (Gruia, 2005). Despite the fact that the book *In Search of Dracula* mentioned Poienari Fortress⁶ or Citadel as the 'real Dracula castle', the communist authorities preferred to present Bran Castle⁷ as Dracula Castle; the reasons were simple: this castle was much more accessible – from road infrastructure point of view; and it was (it still is) situated near Brasov where the tourists could be accommodated. The Poienari Fortress was considered too isolated.

⁵ Based on a thoroughly documentation.

⁶ Cetatea Poienari (Poienari Fortress or Citadel) is known also as Cetatea lui Negru Voda (the Citadel or Fortress of Black Ruler). Without solid historical evidences, it is supposed that the citadel was erected at the beginning of 13th century by the rulers of Walachia. Some historical sources indicate that Vlad Tepes, the Impaler reinforced the fortress – due to its strategic location. The legend says that for this work Vlad used noble people – including their wives and children – whom he held responsible for the death of his father. But no documents were found to support the legend.

⁷ In Bran, the first fortress was built around 1377 and its strategic position was important for the rulers of Transylvania. In 1920 the castle was given to the Romanian royal family. For more information on Bran Castle please visit www.brancastrlemuseum.ro

Trying to multiply the locations where the myth of Dracula could be exploited, in 1976, in Birgau Pass⁸ - at 42 km from Bistrita, the town mentioned by Stoker in his book – a hotel copying a medieval style was built and named Castle of Dracula Hotel. But the efforts of communist authorities stopped here. During 1980s, vampire Count Dracula was considered too ‘decadent’ (Gruia, 2005, Iancu, 2005) and the idea of tourism connected with Dracula’s name was abandoned; anyway, the number of tourists visiting Romania during that period was very low.

In the first half of 1990s, the name of Dracula was almost all the time rejected; there were two motives:

- the connection that was made between the historical Vlad Tepes and Count Dracula;
- the fact that all that time when Romania was mentioned, the name of Dracula almost logically followed; this assertion is supported by the source *The Diplomat* from February 2006.

Considering the precarious economic situation of Romania along with unfavorable external image, the name of Dracula in direct correlation with the name of Romania acted like ‘a last drop’. And it should not be a surprise that many Romanians considered Dracula as a negative figure that casts a dark shadow over Romania.

By the mid 1990s the feelings toward Count Dracula started to become mixed, since some – very few – perceived the business opportunities which could be generated by Dracula’s name and its connection with Romania.

In March 1995 the first World Dracula Congress took place in Romania. The media attitude was contemptuous and all the participants were characterized as ‘odd people interested in vampires’. This attitude reflected the major negative feelings of Romanians – or at least Romanian media - toward Dracula.

In 2000 the Romanian Ministry of Tourism, through the minister Dan M. Aghaton – took an official position and it was declared that Romania should see in the Dracula name an opportunity to attract tourists and the myth should have been exploited at least at the level of 1970s. A tour named ‘On Dracula tracks’ was proposed and the project of Dracula Park was launched. Both proposals were never put into practice. But a positive outcome emerged from this attitude and the launching of the proposal; it generated discussions and an increasing number of Romanians started to accept the fictional aspect of Count Dracula and fewer connections are made with the historical Vlad Tepes, though the connection could not be ignored.

⁸ In Western literature, Birgau Pass is written as Borgo Pass; on Romanian maps it could be found under the name of Tihuta Pass, too.

At the level of 2005, over 20 Romanian travel companies offered packages based on Dracula's myth (Iancu, 2005). Their activities are based on several locations where Dracula theme is present since 1970s:

- Bran Castle which remained the main destination for the foreign tourists searching for Dracula; at least for other 3 years, the Bran Castle can be visited; in 2009 – the owner⁹ of Bran Castle would decide on its destination, under the regulations imposed by Romanian Commission for Historical Monuments; because the castle has nothing dark and sinister about it, those foreign tourist who come only for Dracula are disappointed; those who want to see more, could enjoy their journey because Bran is one of the best known destination for rural tourism combined with mountain tourism;

- Sighisoara – where is supposed that Vlad Tepes was born¹⁰; Sighisoara is a medieval town – with a lot of German influence in its architecture - and one of the seven UNESCO World Heritage Sites in Romania;

- Castle of Dracula Hotel, in Birgau Pass, where a short and very simple program is organized for those tourists who expressed their interest in this direction; it is situated in a mountain area where rural tourism is flourishing;

- Poienari Fortress – its location is isolated; the nearest village is at 6 km; to reach it a person must climb over a stair of over 1400 steps; no attractions could be found at the bottom of the hill where the fortress is located; there were some rumors that a hotel would be built near the place where the long stair begin, but it is not clear if the construction started or not;

- the Hotel 'Home to Dracula' opened in Poiana Brasov in November 2005 (the main shareholder is a British company, owning other 3 lodging capacities in Romania; it was stated the intention – if the 17 rooms hotel prove to be a success – of initiating a hotel chain 'Home to Dracula' in the years to come¹¹;

- in 1997, in Bucharest, Count Dracula Club Restaurant was opened; it offered and offers live performances – on Tuesday and Friday – provided by an actor impersonating Dracula. The restaurant is preferred by foreign tourists; the Romanians are going there only if they are with foreign friends or business partners;

- the Snagov Monastery, near Bucharest, is another location for Dracula myth – the legends present it as the burial place of Vlad Tepes, though the true location of his tomb remain an open question; until now the monastery was not very popular among foreign

⁹ Bran Castle was given back, in April 2006, to Dominic Habsburg, the nephew of Mary – Queen of Romania (Anghel, 2006)

¹⁰ The place of birth for Vlad Tepes is an open question.

¹¹ As the following source suggests: Revista AnatMedia, November-December 2005, www.anat.ro/index.php

tourists due to the closed and reluctant attitude of the monks; it could become more popular because it is one of the places described in *The Historian* – and the description is favorable; the monks attitude remains the key for this destination and depends on reading the book and understanding the message; because Snagov Monastery is a religious place, this tourist destination should be regarded and treated with respect.

Relatively ignored, the town of Tirgoviste, from where Vlad Tepes ruled Wallachia, is seldom included in tours connected with Dracula. It can become mainly a cultural destination.

Several sources indicated that some of the tourists who come ‘in search of Dracula’ discovered Romania as a tourist destination and expressed their interest to come back for other tourist products (Gruia, 2005)

All the locations presented in the previous paragraph and the activities developed there took into account the notoriety of Dracula brand. And this notoriety could not be ignored when over 200 films were made on this theme, more than 1000 books were published and almost 50000 associations and fan clubs for Dracula exist (Gruia, 2005; Iancu, 2005).

Another – very simple – argument in the favor of notoriety was a search on Internet using Google as searching engine. We wanted to compare the frequency of name Dracula – which could be considered as the name of a tourist product – with the frequency of several Romanian most well known tourist destination, which could be sold as tourist products. For all the searches we put the words in quota to get only those websites which included what we were looking for. The results were the following (the search was made in September 25, 2006):

Table no.1

Name of the (potential) tourist product	Number of entries using Google
Bucuresti (Romanian name of the capital)	32.400.000
Bucharest (English name for the Romanian capital)	16.500.000
Dracula	18.500.000
Sibiu (the European Capital for Culture in 2007)	11.300.000
Transilvania (Romanian spelling)	6.290.000
Transylvania (destination for cultural and heritage tourism)	6.230.000
Maramures (destination for rural tourism)	4.870.000
Sinaia (one of the most popular mountain resort on Prahova Valley)	3.520.000
Sighisoara (the medieval town, UNESCO World Heritage Site)	2.810.000
Predeal (other popular mountain resort on Prahova Valley)	2.650.000
Bucovina (destination for rural tourism and including the painted monasteries – other UNESCO World Heritage Site)	1.440.000
Mamaia (considered to be the best resort of Romanian littoral)	1.320.000
Costinesti (the youth resort of Romanian littoral)	576.000
The Danube Delta	353.000

As the table shows, the number of entries for Dracula is exceeded only by Bucuresti and the large number of entries for Bucharest comes from the official sites where Romanian capital is mentioned.

We completed these results with the results generated by the application of the questionnaire – during the summer of 2005 - to a group of 30 persons, with the age between 20 and 28, all students in interchanging programs, coming from Austria, France, Germany, Hungary, Italy, Japan, Netherlands, Norway, Portugal, Spain, and Slovakia. Their answers generated the following results¹²:

- 40% of them heard about Romania as a tourist destination; 60% of them never did;
- 55% consider Transylvania the most attractive region of Romania; other 20% prefer Maramures, 15% chose Bucovina; the rest indicated Romanian littoral or the Danube Delta;
- 100% knew that Dracula myth is connected with Romania and that Transylvania is part of modern Romania;
- 65% expressed their interest in Dracula topic; 35% declared they have no interest in it;
- 40% heard about Dracula Park project; 70% of this number consider that this kind

¹² The study was made by us in collaboration with the undergraduate student Camelia Moldovan.

of park could bring some advantages in tourism field for Romania;

- 55% visited places/ locations in connection with Dracula myth; 10% declared they are interested, but they had no occasion to do it; the rest of 35% maintained their lack of interest toward Dracula.

Those who visited some of the locations for Dracula myth expressed their

disappointment; the respective location has nothing to do with the vampire Count and the gloomy atmosphere they expected.

All the data presented above support the notoriety of Dracula brand and suggest that this myth should be used somehow in Romanian tourism.

DRACULA PARK

Taking into account the Dracula's name notoriety, the idea of the project Dracula Park (named for a while Dracula Land) was launched in November 2001 by minister of tourism at that time, Dan M. Aghaton. The investment was estimated at \$ 31.5 million. (Drumea, 2002).

When the idea of the park was launched, 5 potential locations were on the list: Sighisoara, Rucar-Bran Pass (near Bran Castle), Birgau (Tihuta) Pass, Poienari Fortress and Snagov Monastery¹³. Breite Plateau – near Sighisoara¹⁴ – was chosen because it was considered the most accessible location from the road and railway infrastructure point of view.

The Fund for Tourist Development of Sighisoara was created and an initial public offering was launched. Between December 2001 and April 2002, through this public offering an estimated \$ 3.3 million was raised from 14000 shareholders. (Drumea, 2002)

But this location generated a lot of critics and protests. UNESCO issued a report regarding the Dracula Park project and its conclusions were negatives. The main request formulated by UNESCO report: to relocate the park. UNESCO's attitude was triggered by the fact that the historic centre of Sighisoara is one the 7 World Heritage Sites listed in Romania and such a park would create a kind of mass tourism which would have a negative impact on Sighisoara's historic centre and an unwanted influence on cultural tourism – a product more suited for Sighisoara and the fortified churches from the surrounding region.

Another strong voice in the matter of Dracula Park location was the British Mihai Eminescu Trust¹⁵ which put a lot of pressure on Romanian authorities to reconsider the location for Dracula Park; the motives invoked were historical, cultural and environmental.

¹³ www.draculaland.ro as it was in 2004

¹⁴ Sighisoara is situated at 50 km from the Tg.Mures airport and at 100 km from Sibiu airport. From Bucharest, by train, it can be reached in 5 hours and the almost same amount of time is needed by car. From Brasov by car or by train it takes 2 hours to reach Sighisoara and from Cluj-Napoca the time needed is of 3.5 – 4 hours.

¹⁵ www.mihaieminescutrust.org

Breite Plateau is considered one of the protected regions from ecologic point of view. And the protest had the support of Prince Charles of Great Britain.

The clergymen from Sighisoara also protested against the park 'labeling the project as satanic' (Spicuzza, 2003).

To all this it must be added the Hollywood Universal Studios which threatened to open a legal action concerning the copyrights on Dracula (Spicuzza, 2003).

Some Western and American newspapers considered the project of Dracula Park to be in a bad taste for 21st century (Iancu, 2005).

For a while it seemed that all the protest and critics were in vain. Though, by the end of 2002 PriceWaterhouseCoopers was solicited to audit the Dracula Park project. The audit report recommended the park relocation. The recommendation was made taking into consideration, along with the cultural and environmental problems, the fact that the location near Sighisoara could not support an important flow of incoming tourists, needed for a successful theme park.

All these pressures and opinions determined the Romanian authorities to relocate Dracula Park to Snagov, at 30 km from Bucharest and near Snagov Monastery.

After generating so many discussions during 2002, since 2003 silence surrounded the Dracula Park project. No important steps were made toward transforming the idea into a real park. We consider one of the reasons to be the vague and blurry ideas which existed about how the park should look like. One other reason was the partnership between a private company (Dracula Park Company which replaced the initial Fund for Tourist Development of Sighisoara) and a state company RA APPS¹⁶. And, maybe, the final reason was the fact that the official approval for the park construction was given only in October 2004 – an election year – and the park was no longer a priority; in 2005 the political power changed and no more political support was directed toward the park.

At the beginning of July 2006, the Romanian government decided to cancel the construction project for the Tourist and Leisure Park Snagov (the new name for Dracula Park) due to the fact that no investments were made to the established location since October 2004.

Several days later, the minister of transports, constructions and tourism – Radu Berceanu – declared that the project 'is not a bad idea' and suggested a new study to be made on the construction of Dracula Park, since 'Dracula is the most well known Romanian brand' (Stoica, 2006). When the study should be started, if it ever would be made, and who would

¹⁶ Regia Autonoma – Administratia Patrimoniului Protocolului de Stat (a State company which administer the buildings and accommodation establishments owned by the Romanian State)

pay for it, was not specified.

Some voices spoke loudly against the Dracula Park construction.

One of these voices was Duncan Light who considers that a park with such a theme could generate a strange image for Romania, creating a distance between the desire to become a European country, and the message transmitted through a park with Dracula theme. And this message could be really negative and dark – it should not be forgotten that Romania's image abroad is still tainted by the beggars, bad conditions in the orphanages and delayed political reforms (Gruia, 2005).

On the other hand, such a theme park could be received wrong by the tourists of the 21st century; the older and more educated tourists would consider it kitsch; the younger tourist would associate it with Disney parks and would be disappointed. Only a niche of tourists interested by the dark spirits would be interested, after the general curiosity would fade away. The niche mentioned above could prove to be too narrow to support the needed tourist inflow for a large amusement park, letting aside the fact that is unlikely such a tourist would come back every year in the same location. In our opinion, a thoroughly study on demand for a Dracula theme park should be conducted, mainly among foreign tourists, before any decision would be taken for developing such a project.

The other voice speaking against the Dracula park was the Transylvanian Society of Dracula which – along with some Romanian tour-operators – suggested the idea of two smaller parks: one situated in Bran and having the name *Legend Land of Transylvania* and the other one named *Dracula Land* with the location in Birgau Pass¹⁷

Those smaller park projects were suggested to have locations near Poienari Fortress and near Sighisoara. The last one might not be a good idea taking into consideration the status of UNESCO Heritage site of Sighisoara.

Those kinds of parks are easier to operate, do not put a lot of pressure on the environment due to their smaller dimensions and do not require an important flow of incoming tourists. The idea regarding the development of smaller parks could become a better one than that suggesting the development of a large theme park.

After presenting the facts, we will try to present – in the table below - the arguments pro and those against the use of Dracula brand for Romania as a tourist destination.

¹⁷ www.cesnur.org

Table no.2

Arguments in favor of the Dracula brand	Arguments against the Dracula brand
<p>The story which created the Dracula myth exists – the book <i>Dracula</i> by Bram Stoker. And it was completed by at least two other books, we already mentioned: <i>In Search of Dracula</i> by R.Florescu and R.McNally and <i>The Historian</i> by Elena Kostova.</p> <p>Those 3 books could be used at least as inspiration for literary tours¹.</p>	<p>The reticence (sometimes the rejection) Romanians express toward Dracula. This attitude is generated by a combination of historical elements (mentioned in Introduction) and cultural elements (the absence of vampires from Romanian folklore). As a consequence, Dracula is perceived in a negative manner and not as the fictional personage it should be.</p>
<p>Romania has already a number of known locations in connection with Dracula myth – Bran Castle, Sighisoara, Birgau Pass, Poenari Fortress, and Snagov Monastery). These advantages should not be lost.</p>	<p>The problem of the copyright on Dracula name should be solved and it could be a complicated one. If ignored, the legal actions would, at least, delay the launch of the tourist product/ products.</p>
<p>Dracula is an international brand and it has an important notoriety, built on over 70 years of existence². No new brand could compete with this.</p>	<p>The ideas put in practice to exploit the Dracula name have little proportions and are known only by a limited number of interested tourists.</p>
<p>The cost of promoting a tourist product including Dracula name at international level are very low. This situation is due to Dracula brand notoriety and to the fact that – without spending any money on advertising – Romania and Dracula are mentioned in the Western press every year when Halloween approaches (Iancu, 2005).</p>	<p>The lack of vision which is a characteristic for Romanian authorities in charge with developing tourism beyond the declarative stage. Until 2006 we could invoke the lack of strategy for Romanian tourism development. Since August 1, 2006 this strategy exists, but the name of Dracula is neither mentioned, nor taken into account as a possible tourist product.</p> <p>The lack of vision is combined with the lack of funds; there are no available funds at least for studies concerning the development of tourist products including Dracula name; no one dare to dream that Romanian authorities would invest money in developing such products.</p>

Considering the arguments in favor of Dracula brand we can say that all the ingredients exist to exploit a tourist product including the name of Dracula. The Dracula brand notoriety could be the most important; combined with the story told by Bram Stoker

– making from Transylvania the ‘home of Dracula’ - and with the established locations since 1970s, Romania has an important competitive advantage in this field.

The arguments against Dracula brand are serious. Those connected with the mentalities could be overcome if the creation process for tourist product including Dracula name would consider and handle with care the resentments the Romanians have against Dracula name and its association with Vlad Tepes. Others could be more difficult to solve, but a partnership with those having the rights on Dracula brand could be an intelligent move. The most threatening of the disadvantages could be the lack of vision because it could generate the creation of a product not in tune with the tourist requests. And the line between an original product and kitsch is very thin.

We consider that – at the present moment, due to the changes generated by 10 years of ongoing discussions – the Dracula tourist product have pass through some of the barriers tied to mentalities. It must overcome the other barriers of vision, imagination and implementation.

Another big barrier is represented by the necessary funds. With a good and intelligent idea for a tourist product, completed with a clever choice of partners, the problem of lack of funds could be solved. But the first and hardest step: the market research should be made properly.

Taking into account that some mentalities would never change (The Diplomat, 2006) and that some cultural barriers would always exist, we consider that in the creation process of Dracula tourist product, this should be divided in two distinctive, yet complementary, products:

- one product for foreign tourists which has to have as a base the fictional personage created by Bram Stoker or the newer (more sophisticate) personage created by Elena Kostova in *The Historian*, or having features from both sources; when this product would be created, it must be taken into account the Western vision of a vampire and the atmosphere the foreign tourists are looking for; several sources show that the present offer was and is disappointing for foreign tourists because it did not match with their expectations (Gruia, 2005; Iancu, 2005, Light, 2006); this product for foreign tourist should have a distinct component including the Halloween¹⁸ – mainly for American tourists who would express their interest for spending this celebration in Romania; of course, the product should be tailored for that niche of tourists expectations, which have nothing to do with the local customs and traditions;
- one product for Romanian tourists which should include historical features in

¹⁸ Similar to the Halloween, the night of October 30 is the night of St. Andrew for Romanian orthodox believers (the Orthodox religion is the main religion in Romania) – a night when the dark spirits are wandering free and everyone must protect his/ her home. This night is important for the people living in the rural areas. To complete the idea of celebrations similar to Halloween, in Transylvania November 1st is named ‘the day of the dead people’ and nowadays people are going to the cemetery, light candles and cover the tombs with fresh flowers – mainly chrysanthemums. Both days have more religious connotation for Romanian people than the Halloween for Western people.

connection with Vlad Tepes and cultural features in connection with local traditions and legends; for this product the smaller parks are suited because they can combine the story told by the international bestsellers with the local legends, customs and traditions; and there are plenty to choose from.

As we mentioned above, those two products should have a common zone, where the fictional and fantastic elements of the story could be combined with Romanian historical and cultural elements. This common zone should allow the product to be sold as a whole or by components, depending on tourist demand.

Related to this we consider that this zone of interference could be used for promoting another product: the cultural tourism in Romania. General references to Vlad Tepes link his figure with some important tourist destinations like: Bucharest, Snagov, Bran and Sighisoara. In fact, Vlad Tepes was more dynamic, crossing many parts of our country (mainly Wallachia) and letting there important buildings for the medieval times. Reviewing these locations and destinations we consider that the Vlad Tepes historical figure could be related to medieval heritage sites (like Sighisoara, Bran Castle, House Thomas Altemberger from Sibiu, the Huniazi Castle or Citadel from Hunedoara) and late gothic architecture style places (like Poienari Fortress, the old palace of Tirgoviste, Curtea Domneasca¹⁹ from Bucharest, Turnu Rosu Fortress, and the old fortress from Medias). Using historical

dimension of Dracula through its (unavoidable) connection with Vlad Tepes, we consider that the cultural tourism could be better and more attractively promoted for the foreign tourists. This kind of link, also, could soften the rejection attitude of Romanians. The cultural dimension of the Dracula product could attract Romanian tourist to rediscover their country.

CONCLUSIONS

Despite the fact that vampire Count Dracula is a negative personage and could create negative associations, we believe that – if handled with care – its name could be used for a complex tourist product promoting Romania as a tourist destination.

Our opinion is supported by several opinions expressed by people specialized in advertising and cited by The Diplomat from February 2006.

The competitive advantage generated by the Count Dracula location in Transylvania could not be ignored and even if Romanians do not like the personage, it can not be ignored (The Diplomat, 2006). Romania need such a competitive advantage because it was absent from the international tourist market since 1980s and during 1990s its image was stained and blurry. Romania did not manage to regain its position as a desired tourist destination – as it was during 1970s - using its landscape, spa resorts, medieval towns, fortified

¹⁹ Roughly translated as Rulers Court or Palace.

churches, and other natural beauties and cultural elements. Unfortunately, because the tourism and hotel industry were neglected during 1990s, Romania was not an interesting tourist destination for its citizens too.

This competitive advantage is now put under a question mark if Bulgaria would decide to exploit the fiction in *The Historian* where the ‘temporary tomb of the vampire Dracula’ is situated. There is a third alternative, as *The Historian* locates its fiction both in Romania and Bulgaria, at least common literary tours could be organized.

Another competitor in this field appears to be ‘the Croatian Dracula’ as Internet searches generated several entries with this topic. We could not gather enough information to analyze in depth this potential competitor, but those who want to develop the Dracula tourist product for Romania should.

In the complex process to develop a tourist product using Dracula name, the mistakes from the past should be avoided – we mention here the wrong understanding of tourists’ requests during 1970s. We also want to highlight – in table no.3 - what evident mistakes were made in the project of Dracula Park and what it can use as inspiration sources if the idea of a big theme park would be resume in the years to come.

Table no.3

The initial idea – from 2002	The idea for the location near Snagov	What it could be
<p>The project had only one theme: the book <i>Dracula</i> by Bram Stoker.</p> <p>It should include⁴:</p> <ul style="list-style-type: none"> - a copy of a medieval 15th century castle from Transylvania; - a building copying the Renaissance style for conferences, including a library with books on the theme <i>Dracula</i> and on vampires; - a main street with shops, bars, restaurants, theatres and a Grand Hotel <i>Dracula</i>; - a circular square with interactive workshops - an artificial lake - an amusement park (it was not clear if the theme of the park would be kept in the amusement park too) 	<p>The sources available to us did not say if the concepts from initial project have been included in the second location of the park.</p> <p>After the decision to relocate the park was taken, it was suggested that <i>Dracula Park</i> should include a golf course, a hippodrome, an aqua park and a race track (Iancu, 2005; Stoica, 2006).</p> <p>It is the time to mention that those who made the second proposal had no idea what a theme park is. And it is not surprising – Romania has no tradition in developing and operating amusement and theme parks. From this point of view, maybe the failure of this project it was a blessing in disguise.</p>	<p>If the idea of a big theme park was not abandoned and such a tourist product should be developed, at least the 3 books mentioned above could be used as themes (and the copyrights problems should be solved).</p> <p>Maybe the involvement of Universal Studios in such a park would be an idea to consider.</p> <p>And the theme could be completed by other two books which used the mysterious Transylvania in their pages before <i>Dracula</i> by Stocker. Those books are: <i>One thousand and one phantoms</i> by Al.Dumas, published in 1849 and <i>The Castle of the Carpathians</i> by J.Verne, published in 1892.</p>

A lot of imagination and vision would be needed to create and operate such a theme park. We presented the main negatives aspect of such a park in Results and discussions.

But maybe the *Dracula* tourist product with its two components would be easier to exploit through other alternatives:

- smaller theme and amusement parks developed near the locations already known

for their connection with Dracula myth; these kind of parks could combine local legend and traditions with the fictional Count Dracula; here both imagination and vision are a must;

- literary tours based at least on the 3 books mentioned above – using the location mentioned in them; if this literary tours could have the benefice of theme restaurants, bars, accommodation establishments, it would only enhance their attractively.

These ideas could complete themselves generating many alternatives tourist packages from which tourists could choose.

Of course, the Dracula tourist product should be developed within the trends and requirements of 21st century. And it should be a flexible product; mainly its central character – Count Dracula – must be able to change form the Count vampire created by Stoker to the sophisticated scholar from *The Historian* and even become a ‘Mr. Nice’ vampire if the trends and tourist tastes would request that.

When developed, the product should have style and should not offend local traditions and culture.

Romania could choose to be haunted by Dracula’s ghost or could decide to put the vampire to work for it in the tourism field.

We consider that the Dracula tourist product should be developed. It would open the door for other tourist products – from cultural to leisure and adventure – for those foreign tourists who want to know more about Romania beyond the connection with Dracula name and myth.

Once Romania would enhance its position as an interesting and desired tourist destination, the Dracula tourist product could become of lesser importance. It would never be abandoned, because as long as the humans would have an interest on the dark powers and dark spirits, Dracula would be present in their choices as a tourist product too.

LITERATURE

1. Anghel, C. – Retrocedare istorica – Castelul Bran revine la Habsburgi, Jurnalul National, April 18, 2006, www.jurnalul.ro/articol_50919/retrocedare_istor
2. Drumea, T., 2002 – A fi sau a nu fi, HoReCa Profit no.3, July-August, 2002, pag.8-9
3. Gruia, C. - Ce facem cu Dracula – dilema schizofrenica a Romaniei, National Geographic Romania, November 2005, pag.24-45
4. Iancu, L. – Cit ne datoreaza Dracula?, Business Magazin, March 2-8, 2005,

pag.36 - 41

5. Light, Duncan, 2005 – The People of Bram Stoker’s Transylvania, Journal of Dracula Studies, no.7/ 2005, pag.38-45, www.lemmingworks.org/drc/images/07Light.rtf
6. Light, Duncan, 2006 – Halloween in Transylvania: tourism, fantasy and play in a liminal space, International Conference on Halloween, 31 October – 1 November 2006, Glasgow Caledonian University, www.gcal.ac.uk/halloween/index.html
7. Miller, Elizabeth, 2002 – The Question of Immortality: Vampire, Count Dracula and Vlad the Impaler, Journal of Dracula Studies, no.4/ 2002, www.lemmingworks.org/drc/images/04Miller.rtf
8. Rezachevich, Constantin, 2005 – ‘Cruzimea’ lui Vlad Tepes – o exceptie, Magazin Istoric no.5 (458), May 2005
9. Spicuzza, Mary, 2003 – Another Strange Trip for a Blood-Soaked Country: Can Romania count on Dracula?, San Francisco Gate, October 26, 2003, www.sfgate.com/cgi-bin/article.cgi?file=/chronic
10. Stoica, G. – Berceanu s-a facut frate cu Dracula, Saptamina financiara, August 7, 2006
11. Revista AnatMedia, November-December 2005, www.anat.ro/index.php
12. The Diplomat Bucharest, 2006, February – Romania’s makeover strategy, www.thediplomat.ro/features_0106_2.htm
13. www.brancastrlemuseum.ro
14. www.cesnur.org
15. www.draculaland.ro as it was in 2004
16. www.mihaieminescutrust.org

THE DEVELOPMENT OF CULTURAL INDUSTRY IN THE SOUTH-TRANS-DANUBIAN REGION (HUNGARY)

Norbert Pap
University of Pecs

INTRODUCTION

Nowadays the objectives of the development of cultural industry supported by the culture as a local „resource” are drafted by certain human intellectual and professional circles in pursuit of the idea of self-financing. Thus an important question may occur: how relevant is the culture-based territorial and local development?

Let's suppose that their applicability is highly dependent on space and time and that the limits of economic growth and employment are obvious. Due to the effects of the **pole program** and the program of European Capital of Culture an initiative has been formulated in the South-Transdanubian region to set up a Cultural Industry Competence Center in order to develop the innovative institutions of the region.

WHAT, HOW AND WHY?

As for a start let's accept the fact that the cultural activity can induce economic activity in order to contribute to the regional development in this particular region containing almost one million inhabitants and possessing a two thousand year-old tangible and intangible cultural heritage.

The main question is the following: which part of this immense heritage of contemporary cultural-artistic activity can be sold on this special market? Can the cultural activity be sold as distinctive merchantable goods, or is it just a component of the marketable products? How can we define culture at all? To which extent should we broaden or restrict its actual meaning? Can the so-called high culture or popular culture be placed on the market? Which culture should get into our portfolio: the folklore culture or the modern artistic efforts? Should we join the main global artistic currents or rather minor undercurrents while planning our future activities?

Who will be our future buyers? Are they going to be the residents of this particular region or the inhabitants of the neighbouring – or perhaps more distant – regions? So many questions, still, it's possible that we cannot give only one proper answer to them.

THE BASIS AND THE APPROPRIATENESS OF THE DEVELOPMENT

The Transdanubian region does not belong to the dynamic regions of Hungary. Many of its territories are among the least-favoured areas of the country (Ormánság, Zselic, Sárköz, Hegyhát, Inner-Somogy). The international capital has not really preferred these areas in the past (the incoming capital to this region is only 1.8 percent of the nationwide figures), thus, it is crucial for the entire region to find break out points for a dynamic development by the effective and conscious mobilization of the inner resources. One of these break out points – which are influenced solely by the region's natural and social circumstances – is the cultural industrial activity which has a prominent position in the different developmental documents of the region, such as the documents of the DDT Regional Innovative Strategy.

The region possesses excellent conditions for developing the cultural industrial activity. It overflows with natural beauty (Duna-Dráva National Park – Gemenc, Barcsi Ősborókás, the cave of Abaliget), it has a rich historical past (numerous artifacts, world heritage, castles, historical downtowns) and diverse artistic and folklore traditions (Sculpture Park of Villány, the Sárközi tradition, etc.), and it is decisively characterized by its creative cultural and artistic activity. A large number of institutions and non-governmental organizations are active in this sector, although the number of cultural industrial ventures is quite low. As for the mediation of culture several prominent schools (the Csokonai V. M. Reformed Secondary School of Curgó, the Táncsics M. Secondary School, the Leöwey Klára Bilingual Secondary School, the Secondary School of Art – Pécs, the Garay J. Secondary School, Energy Training School – Paks), internationally acknowledged universities (PTE, founded in 1367), world-famous art groups (Tanac, the Bartina Dance Ensemble, the Pécs Philharmonics, etc.) and other associations can be mentioned.

Despite all of its beneficial conditions we cannot say that the region's most visible actor is the cultural industry. We presume that the main reason for this phenomenon is that the actors of the cultural industrial sector are operating independently from one another with low efficiency and unnecessary parallelism. The competences necessary for the effective operation of the cultural industry are isolated in many cases, they exist without the prosperous effects of information, thus keeping the patrons, the professionals, the artists, the ventures and the audience (the consumers) from meeting each other and obstructing the efficient operation of the entire branch.

Thus, it seems that it is necessary to establish a competence center for cultural industry. The main task of this center would be the mediation between the different partner groups of the cultural industrial sector. The competence center would be an organization responsible for connecting the actors of this particular sector, for increasing the efficiency by accelerating the flow of information, for generating different projects and for executing certain initiatives.

With regard to the competence center we plan to maintain its activity for the next seven years. The most important event of this period will be the year of 2010 when Pécs will be one of the European Capital of Culture. The series of events of this period and the years after 2010 offer the most important reference points to the competence center.

THE PLANNED TARGET SYSTEM OF THE DEVELOPMENT

General Objective:

To establish institutions and cooperation by mobilizing the regional cultural resources in the field of creative industry, thus improving the economic conditions of the region and bringing the sector onto a higher growth path.

Specific Objectives:

1. Starting the cultural industrial clusterization process

To this end:

- 1.1. The establishment of the cultural industrial competence center in cooperation with the members of a given consortium
- 1.2. The preparation of the regional cultural industrial strategy, thus determining the framework for future cooperation with the guidance of the competence center
- 1.3. The establishment of an expert advisory network and supporting its operation by creating an expert advisory database and by providing information and advisory services under the aegis of the competence center
- 1.4. Providing exchange of information in a highly extensive way, securing the relationship between the potential partners, and creating a cluster association which provides new possibilities for innovation and which contributes to the image of the cultural industrial cluster with the voluntary help of its members.
- 1.5. The preparation and execution of specific programs which support the cluster organization and urge the members of the business sector and the representatives of the civil society to cooperate and to communicate with each other
 - The preparation and the execution of the publishing program of “Pécs 2010”
 - The quantitative and qualitative development of regional events possessing both national and international attraction
 - Expanding the product range of cultural tourism
- 1.6. The initiation of the regional talent care program

2. Providing assistance for the Transdanubian regionalizing process

It is in the region's interest to provide that the results of the program would affect not only Pécs but other neighboring areas, towns and the other two towns with county's rights as well

3. The completion of the region's international gateway function

- The philosophy of this particular program is connected to the ECC program's Balkan gateway role. We believe that not only the most important cultural regional center possesses this gateway function, but the entire region as well (of course with different rates of intensity). *The South-Transdanubian region is a gateway between South East Europe and the European Union.*

Within this framework as a part of this tendering program:

- 3.1. the founding of the Academy of South East Europe
- 3.2. the creation of the Encyclopedia of South-East Europe is needed.

Results:

- The cultural supply of the region becomes more diverse, the cultural industrial product range expands
- With the help of the members of the cluster associations an innovative cultural industrial network is forming
- A coordinative and initiative organization comes into existence, which will have a decisive role in the cultural life of the region

Effects:

- It promotes the regional prosperity of the cultural actors
- It leads to the strengthening of the cultural industrial ventures
- The cooperation intensifies between the different cultural industrial organizations
- The supply of the ECC program expands
- The lucrative nature of the cultural and artistic creations intensifies
- The cultural industrial strength of the region grows.

Organizational background, intellectual basis:

The South-Transdanubian region traditionally possesses immense intellectual capacity in the fields of social sciences, philosophy and art training. However, this capacity is isolated in a great extent, since it affects mainly the region's two universities (PU, KE), and its importance is quite negligible from the aspect of economic development.

Since the University of Pécs (the second biggest university in Hungary with about 35000 students and 2000 teachers) owns the biggest intellectual (thus, cultural) capacity in the region, and since it is a specific objective of this project to support the cultural industrial ventures, the project and the competence center will be implemented and established by the PU and by a consortium founded by different county entrepreneurship centers. The consortium, which owns organizational units and capacities in all the three counties of the region, can secure its presence in the entire region, and provide its services for the ventures operating in the cultural industrial sector.

The entrepreneurship centers have acquired twenty years of experience in the field of enterprise development and of cultural industry. This cooperation can create those links between the university teachers (university competencies and capacities) and the ventures which are still missing today.

Due to the several years long cooperation and working relationship the PU possesses all the confidence and support of numerous business ventures residing in the region.

The competence center wishes to have an impact on all creative industries of the cultural industrial sector.

Target markets and cooperational dimensions

The competence center displays its activity in several dimensions. These dimensions are the following: Romans in Hungary, the Danubian, the Balkan, the Turkish (Islamic), the Protestant, the wine and the local creativity dimensions.

Buy paying a special attention to the market-aspects these so-called dimensions defines cultural industrial resources, target markets and business networks

The “Romans in Hungary” Dimension

One of the most famous location of the region (and of Pécs) is the Early Christian Cemetery which is also part of the world heritage. Its image-forming significance is quite apparent, however, its role as a tourist attraction destination is not that remarkable. This attraction can be intensified by the investments in progress, although well-segmented target markets must be found to achieve this intensification. Besides the Hungarian ones the Croatian, the North-Italian and the Austrian territories can be potential target markets. By connecting the cemetery with other locations of the cult of Mary in the region characterized by strong Catholicism, a new target market can be revealed.

The Danubian Dimension

In this case the Danubian dimension means that the region has been connected to the cultural, transportation and innovative corridor of the Danube riverside region. The fact that a German city (Essen) was chosen to be one of the other three European Capitals of Culture in 2010 is a peculiar circumstance. The Germans living in the Danube riverside region played a decisive role in the urban and economic development of this particular region by promoting the civic movements, thus establishing strong links between the Balkans and the Central European countries. The effects of these results last even today, it is enough to mention for example the presence of the several German joint ventures in the region. As for the cultural industrial “export” (such as the cultural tourists, consumers and partners) the primary target markets (beside the territories of the Carpathian Basin) are situated in Austria and in South Germany. The so-called *Schwäbische Türkei* program

aims at these markets at the first place.

The Adriatic-Balkan Dimension

In the past centuries the Danube riverside region witnessed not only the migration and the cultural value creation of the German colonizers. Throughout the centuries several other ethnic groups chased by the Turkish invasion have entered the region as well. That is why it is possible to establish links to the Balkan dimension. These links contribute to cross-border cooperation, to euro-regional organization and to the formation of commercial (e.g. CBA, MIZO Rt.) and tourism networks. The Croatian, Bosnian, Montenegrin, Bulgarian, Greek, etc. relations are also existent in the region (e.g. OTP, MOL), and there are still numerous possibilities to enhance these relations which – as target market and business partnership – serve as access points for the cultural industry.

The Turkish-Islamic Dimension

The only non-EU member of the CCE-program for 2010 is Istanbul. The size of this immense city (population: 9 million – including the agglomeration: 19 million) and its cultural and economic potential are bigger than the same potentials of Hungary, thus, its role is of utmost importance concerning the organization of the cultural industrial activity. The questions of security in connection with the Turkish and East Balkan (Bulgaria, Romania) process of accession concentrate the attention of the EU onto the Turkish-Islamic dimension. Our region possesses Turkish/Islamic material and cultural (mainly architectural) heritage due to the Turkish occupation of Hungary. This fact provides possibilities for displaying this particular dimension by the means of cultural industry. Those countries waiting for the process of accession are on a lower integration level than the members of the EU (including Hungary). In regard to certain educational and cultural services our region has favorable possibilities concerning the cooperation with South East Europe.

The Protestant Dimension

One of the uniqueness of the region is that many of its areas lagging behind and its inner peripheries are dominated by the protestant tradition, thus, the Protestantism is the chief source of their material-cultural heritage. The protestant communities of the minor regions of Ormánság, Zselic and Sárköz exist even today. The traditional architecture and culture of the Transdanubian region is chiefly of protestant nature. The significance of this heritage exceeds the proportion of the present number of protestants to a great extent.

The protestant dimension will be activated only if the Hungarians of protestant tradition living outside the country (but still in the Carpathian Basin) and in East Hungary enters the market of the region's cultural industry, since they can be addressed with this particular content.

This dimension offers the possibility for cultural identities for those Swiss, Holland

and other northern protestant communities, which traditionally show interest towards Hungary, thus forming a significant, solvent market segment for the cultural industry.

The competence center can rely on the knowledge basis of the region's protestant intellectuals such as the intellectual centers of the Protestant College of Pécs, the Evangelical Secondary School of Bonyhád and the Protestant Secondary School of Csurgó.

The Dimension of Wine

From the three biggest southern peninsulas of Europe the Iberian and the Italian Peninsula are the true centers of wine-production. The climatic and other production capabilities and the professional-cultural heritage provide the prosperity of this particular economic sector. The production circumstances in the Balkan Peninsula are at least as advantageous as the above mentioned capabilities of the Italian and Iberian Peninsula. However, in many aspects the Balkan Peninsula is lagging behind these regions, thus having great developmental potentials which can be utilized by the region's cultural industry. The most characteristic product of the region is the wine and the related services of cultural content. The region can mediate its immense knowledge about wine production for those countries of the Balkans which are on a lower integration level, thus enjoying the advantages of several multiplier effects and possibly giving way to the birth of a Carpathian-Balkan wine-region. The wine-region's organizing center would be Pécs and its base would be the existing vine-growing areas of the region. Besides the university of Pécs, the FVM Wine-growing Research Institute and the Association of the Pannonic Wine-Region would provide help to achieve the goals concerning the creation of the cross-border wine-region.

The Dimension of Local Creativity

Several artists and culture creators are operating in the region which on the other hand cannot rely only on the heritage of the past. New knowledge, new culture and new art are needed as well, and for that the necessary scope must also be created. The competence center naturally cannot undertake all the responsibilities in connection with these necessary steps. At the same time the conditions for the future success of the young talented artists must also be provided through the initiation of a regional talent care program. The competence center should contribute to the advancement of these young artists by paying attention to business relations (providing possibilities for exhibitions) and by providing local employment possibilities for them.

Every effort can be supported in the dimension of local creativity, supposing that they are viable and that certain (literary, artistic, musical, etc.) initiatives has been already formed in connection with these ambitions.

Its knowledge basis would be the universities and the art schools of the region. The "cultural industrial access points" would make it possible to evaluate all the efforts in this sector, thus utilizing them later as resources for the cultural industrial cluster.

Its market is the culture-consumer society which otherwise is segmented by geographical, cultural and linguistic differences.

The long-term realization of the project is in accordance with the NFT program of 2007-2013.

THE CENTER FOR EASTERN - MEDITERRANEAN AND BALKAN STUDIES (KMBTK)

The Center for Eastern-Mediterranean and Balkan Studies was founded in 1999 under the aegis of the Institute of Geography (PU – Faculty of Sciences). The Department of Political Geography and Regional Development formed the basis of KMBTK which is a unique research center (successfully operating for years) in Hungary. Its main objective was to bring together the university's educational and research activities in connection with the Balkans and the Mediterranean region.

The diverse profile of this department includes not only the Balkan-research, but the territorial- and local development, the regional political geography, and the research history as well. Several publications, research projects and educational activities belong to the four above mentioned profiles. The chief research results were compiled together and were published (thus having become accessible for the wider public) in printed form by the department.

In the recent years the department has launched a four semester-long specialist training called the Balkan Studies. Several university students from different faculties participate in this particular training.

The Introduction of the Activities

The Preparation of the Cultural Industrial Strategy

The cultural sector needs a strategy formulation for the next seven years on the basis of real demands and exploitable possibilities. The document will point out the long term tasks to be carried out by the cultural industrial cluster and the competence center. The strategy coming into effect from 2007 till 2013 must be formulated in coordination with the existing regional developmental documents. The RIS and the region's SFP should be the basis of this particular strategy formulation.

The ideas occurring in this tender can be defined as starting points for the creation of a cultural industrial strategy.

The Initiation of the Cultural Industrial Cluster Association

The competences required for the effective operation of the cultural industry are isolated in many cases, they exist without the prosperous effects of information, thus keeping the patrons, the professionals, the artists, the ventures and the audience (the consumers) from

meeting each other and obstructing the efficient operation of the entire branch.

Many types of organizations are in connection with the cluster which includes more and more organizations as the times goes by. The cluster is based on the synergic effects between the economic and the other non-traditional operators. A special network of hierarchical and business relations comes to effect between these participants. In many cases these relations presuppose the mutual dependence, confidence and the willingness to cooperate, thus strengthening each participant due to their common interests.

The founding objective: to form a South-Transdanubian cultural industrial cluster and to establish a network which helps the cultural industry by using innovative, practice-oriented methods.

The initiators of the establishment of the association: the members of the tendering consortium

Founders: those legal and natural persons who:

- have already contributed to the success of the cultural and scientific life of the South-Transdanubian region and/or
- are fully committed to the development of the region and/or
- are ready to cooperate with others in order to expand the region's cultural supply, to intensify the institutional and personal relations affecting the cultural industry and to promote the region's role to be recognized as a cultural industrial center of utmost importance and
- undertake the obligations arising out of the membership

The Communicational Target Groups during the Founding Period:

- the cultural, scientific and educational institutions of the region
- the maintainers of the above mentioned institutions
- art associations
- related non-governmental organizations
- the creative artists operating in the region
- the participants and the supporters of earlier regional cultural events
- the ventures and contractors of the region
- the potential investors, sponsors and patrons
- the potential consumers (the audience)

The reason behind the need for the establishment of the cultural industrial cluster association:

To make it possible to each and every legal and natural person to freely take part in the developmental phases of the cultural industrial products by making the required information accessible and by supporting the formation of different partnerships. The (more) efficient utilization of the individual and organizational resources is also of utmost importance.

The method for satisfying the above mentioned needs:

- Establishing and operating an informational network bringing together the cluster-members
- Presenting and promoting the region's cultural industrial strategy (thus emphasizing the possible ways for cooperation)
 - Organizing innovational forums and discussions
 - Preparing and carrying out common developmental projects
 - Supporting and encouraging the individual initiatives
 - Developing and controlling a motivational system facilitating cooperation (including the (formalized) recognition of the results achieved while developing the region's cultural industry)
- Planning and executing the image-creator marketing activity introducing the region as a cultural industrial cluster center (including the continuous publication of the achieved results)
- Undertaking the search for talented artists and innovative ideas and assessing the related needs

The exploration of the cooperative synergies is of strategic importance

Values:

- Openness (in every sense)
- Democratic Operation
- Eliminating the sectoral, organizational and size tolerances
- Cooperative skills and abilities
- Value-creation as the most important criterion

The public concerned: it grows beyond the borders of the region, it affects the entire Hungarian society as well as several organizations and population groups residing outside the country

Image: the messages mediating the above mentioned values

Vision of Future (Organizational):

- The chairman (the representative) of the association must be a man/woman of prestigious cultural position
- The wide-range application of the informational technology and the sharing of information in order to provide a chance for the members to take part in certain cooperative processes
- The members should contribute to the realization of the association's objectives through the means of predetermined "personal services"

The programs motivating the cluster's cooperation:

Common characteristics of the following programs: they are initiated by the competence center which undertakes coordinative activities during the execution. The programs are carried out in cooperation by the members of the cluster association. The aims of the programs are quite diverse, however, they have one significant effect and that is to

deliberately strengthen the cooperation between the different organizations of the cluster association.

Pécs 2010 Publishing Program

The book-series will strengthen the regional knowledge center and the local publishing capacity. The books to be published can be divided into two groups. The first group contains the volumes of Pécs 2010 (books on culture, gastronomy, art and literature; travel guides, photos) while the works of the second group are the books about the Balkans (written by South-Transdanubian authors about the region).

Books of Pécs 2010

Market-based, well-illustrated (photos and other types of illustrations) books about the cultural values of the region and of the regional center.

E.g.

- Islamic Architectural Heritage in the South-Transdanubian Region
- Wine, Wine Culture
- Our Protestant Heritage
- Krauts in the Danubian Riverside Region
- The Role of the Jewish Intellectuals in the Regional Local Development
- Croatian, Bulgarian, Greek and Serb Minorities in the South-Transdanubian

Region

- Our literary heritage
- The Contemporary Fine Arts in the South-Transdanubian Region

Books about the Balkan/Adriatic Region

- The Geography of Our Routes Leading to the Adriatic Coast
- Turks in the Balkans
- About the Bosnians
- The Albans
- Montenegro – the newest state in Europe
- Hungarians in the Southlands

The precondition for publishing is that the manuscripts must be completed, revised and edited. Due to its budget the project can afford to provide certain motivational support. So the sub-contractors (writers, editors) will contribute to the creative phase, however, the process of publishing is entirely market-based. The publishing would be continuous, we would like to publish five books during the duration of the project.

Cultural Tourism

The South-Transdanubian region is not just an imaginary, virtual bridge between Western-Europe (EU) and South-East Europe (the Balkans), but it is really located between these two European regions. Consequently those people who travel from Western-Europe towards the south-east and from South-Eastern Europe towards the west, surely find the South-Transdanubian region familiar to their homeland since several characteristics and structures of both European regions can be traced here (such as the buildings of national

minorities, traditions, monuments commemorating the common historical past, and the widely-known historical subjects [Krléza, Zlatko Prica, Lenau, Ilyés, Garai, Babits, etc.]).

The migration towards the south-east and the north-west has always been specific to this region. That is how the region became rich in the long-lasting culture and traditions of the German and the South Slavic settlers.

These relics and traditions contribute to the cultural heritage of our region, thus it is our duty to preserve them. However, this preservation can be realized only if we connect the protection of these values with the interests of the participants of the cultural tourism, thus providing the financial sustainability for the protection of these cultural relics.

On these grounds – within the framework of the project – we are initiating the establishment of the so-called thematic routes (units) which would promote the neglected but still significant layers of cultural tourism characterizing the region. The competence center provides assistance for the establishment of these routes, however, the actual realization of the establishment should be carried out by the local governments, ventures and the non-governmental organizations involved.

Apart from the development of the cultural industry several other interests are connected to the establishment of the thematic routes. Firstly, the routes are marketing tools which provide reputation for the region and for the neighboring micro-regions. Secondly, by bringing together the isolated individual attractions they can generate intensive tourism in those areas which otherwise wouldn't had the chance to attract tourists.

The Department of Tourism of PU, the Territorial and Local Developmental Research Center in Szekszárd (the Cultural Thematic Route Project) and the experts of the HVK possess a significant amount of knowledge and usable experience in designing thematic routes.

The activity will involve the designation of these routes and the preparation of the background and impact studies – along with the market researches. The establishment and the maintenance of the thematic routes are market-based.

a) The Balkan Thematic Route(s)

The designation of two thematic routes will be initiated in connection with the Balkan dimension of the South-Transdanubian region. The first one should be based on the Islamic and Turkish historical buildings and other relics which are certainly of unique nature in this particular European region. The thematic route should be established on the axis of Mohács-Siklós-Pécs-Szigetvár owning numerous cultural historical relics mainly of architectural nature. The visitors of this thematic route would come from two important regions: from Western-Europe (mainly from South-German, North-Italian and French

territories) and from Turkey (where Istanbul will also be a CCE in 2010).

The second possible thematic route of the Balkan dimension should be a cultural route of folklore nature between Mohacs and Barcs (thus covering the Drava riverside region). This route should contain the townships of South-Slavic minorities. The cultural tourists attending this route would come from Croatia, Slovenia and Serbia. The route can offer complex tourist products for the visitors interested in different regional peculiarities since it will be connected to other routes crossing the Ormánság (the Villány-Siklós wine-route, the protestant axis, or the Duna-Dráva National Park).

E.g. Grábóc – Serb monastery, Mohács Busó House – historical monument, orthodox church, Stork Museum of Kölked, the wine-cellar of Villánykövesd, sculpture park, Siklós – cooking contest, the Turkish church of Malkocs Bej, castle, the fairgrounds of Máriagyűd, the churches and distinctive dwelling-houses of Croatian villages: Drávaszabolcs, Drávafok, Felsőszentmárton, Lakócsa, Babócsa – pasha garden with Turkish well, river excursion in Barcs, Turkish dwelling-house in Szigetvár – Slavonia: the monument in Batina, the castle of Osijek, historical (from the age of the Austro-Hungarian Empire) downtown, natural sights of Papuk, tasting the Croatian gastronomy, visiting the Muslim community living in Tuzla, having dinner in a Muslim restaurant, etc.

b) Schwäbische Türkei

The South-Transdanubian region is one of the chief traditional areas of the settlements of German minorities. Throughout the past centuries the numbers of the German communities inhabiting this region have been decimated, although their culture and customs still exist. The region once called as the *Schwäbische Türkei* is situated on the right bank of the Danube (containing certain territories of the counties of Baranya and Tolna) and it is the most significant area of settlement of the German communities living in Hungary. Their most important cultural centers (Pécs, Szekszárd) can be found also in this region. Their customs, folk arts and architectural achievements have been isolated from the general public in the past, however, some mayors have already tried to change this situation. Through the cooperation of the Lenau-House in Pécs, the local governments involved and the competence center a cultural tourist service (based on the thematic route to be designated in this region) can be provided for the visitors interested in the above mentioned cultural values of the German communities.

The visitors (the descendants of those Germans who were forced to leave this territory because of the political and social tempests of the twentieth century) of this particular thematic route would come primarily from Germany and from Austria.

E.g. The dripping rocks of Óbánya, trout lake, picnic, the Episcopal castle of Mecseknádasd, the house of regional traditions in Ófalu, the traditional kraut costume of Mórág, presenting the components of peasant economy, Mőcsény – dinner with wine tasting, the pottery workshop in Palotabozsok, german school, the docks of Dunaszekcső-

Bár, river excursions, visiting the White and the Yellow Castle, visiting the war memorial of Cikó, Bonyhád – the Kraut House, the Perczel Mansion, the blacksmith workshop, the village house of Kakasd, traveling to Gemenc on the light railway of Szekszárd, visiting the theater of Deutsche Bühne, etc.

c) The Protestant Thematic Routes

The Ormánság, the Zselic and the Sárköz are ethnic regions practicing protestant traditions. It is remarkable that each of these ethnic regions is situated in different counties of the South-Transdanubian region. This thematic route can be internationalized due to the southern, protestant borderlands of Baranya County.

The most important (valuable) historical monuments of the Ormánság are its painted protestant churches. The elegant ornamental illustrations painted onto the pinewood derive from ancient Hungarian symbols. The most lavishly decorated churches can be found in the villages of Drávaiványi, Kórós, Adorjás and Kovácsbida.

The 19th century river regulations suddenly made the Hungarian population inhabiting the moorlands of Sárköz very rich, thus they could form their unique architecture and give birth to probably the most colorful – and the most expensive, as well – folk costumes. These costumes were made of expensive silk and were embroidered with lace and shiny pearls.

While setting up this thematic route, cooperation is suggested with the protestant intellectuals and operators of the region.

E.g. the protestant churches of Kovácsbida, Adorjás, Kórós and Drávaivány – Vajszló: the Library and Museum of János Kodolányi (Hungarian writer) – Csányoroszró: artistic creation of woodwrights; visiting the local fairgrounds – Sellye: the Draskovich Castle, melon festival – Drávasztára: Fishing, cycling in the Dráva riverside region, river excursions – picnic at the Biedermann hunting lodge in the Szentegát Forest or at the lakeshore of Kétújfalu - Biedermann-vadászkastélynál piknik vagy a kétújfalui horgásztónál – visiting the cemetery chapel of Barcstemetőkápolna (resting place of the Széchenyis) –the Protestant College of Csurgó – visiting the ethnographic exhibition on Csurgónagymarton, etc.

The Elaboration of the Regional Talent Care Program

There is a constant decrease in the population of the South-Transdanubian region. There are two main reasons for that. The first one is the low number of births, while the second one is that the young talents wishing to succeed usually go abroad or to the capital while chasing their dreams, thus leaving the region. It is of course in the region's interest to change this desperate situation.

Within the framework of the project we wish to contribute to the altering of the above mentioned situation by starting a talent care program in the region. Its chief objectives will be to search for the talented students (members of the cluster association) and to provide them with the necessary information and support (competence center).

The program controls the regional doctoral trainings (schools of PhD and DLA), thus creating possibilities for the young research workers and artists to step up by establishing a network of relations and providing informational and advisory services.

Another important element of our talent care program is that we help those young talented students, who are spotted by the teachers in the secondary schools of the region, to exploit their own gifts. With the help of our advisory database we try to find so-called “mentors” who are willing to support financially the talented students with the hope of latter business benefits.

As for the future we are planning to establish a talent care foundation with the help of the members of the cluster association. The task of the competence center would be to (financially and professionally) contribute to the establishment of the organizational structure and to the determining of the methods of operation. Connecting the regional talent care foundation to the national and international talent care organizations and to the patrons (and to other possible financial sources) is also of utmost importance. Requirements: Setting up the competence center and the necessary database.

Assisting the regionalizational process in the South-Transdanubian region by organizing cultural events.

The regionalizational process can be facilitated by the cultural thematic routes. These routes can contribute to the organization of the minor cultural industrial centers of the smaller towns of the region possessing valuable cultural products.

Our aim is to start a series of events throughout the country by extending the CCE program to the whole region (the towns – Pécs, Dombóvár, Szekszárd, Mohács, Marcali, Kaposvár, Barcs, Siófok – of the different counties would contribute to the celebrations with the help of their unique cultural potential). The above enumerated cities should organize their own series of events which naturally would be in connection with the CCE program. These nature of these events to be held have not been defined yet, although it is obvious that the above mentioned dimensions have to be taken into consideration while planning the celebrations.

Possible events to be organized in 2010:

- National meeting of student actors - Dombóvár
- Founding a new summer university on the southern shores of Lake Balaton (Siófok vagy Fonyód)
- Literary festival in Szekszárd – (related to the famous Hungarian poet, Mihály Babits)
- The Rippl-Rónai Festival in Kaposvár
- Labour market orientational event - Marcali

A possible event: summer university at Lake Balaton

The topics and the operation of the summer university will be elaborated in collaboration with the participants involved. The summer university is of great significance from more than one aspect:

- If it was being held in the last weeks of late summer, the tourist season of the Lake

Balaton would be prolonged.

- The scientific/cultural tourism will provide a whole range of new tourist products for the diverse tourism of Lake Balaton.

- Since It will be held in an easily accessible region of the country (and of the South-Transdanubian region as well), the number of potential visitors will be much higher than expected.

- Suggested topics:

- Possibilities for cultural tourism in the Carpathian Basin
- Cultural relations between the Carpathian Basin and South-East Europe
- Hungarological summer university – the cultural innovative possibilities of the Hungarians within the framework of European integration

Requirements: making contact with the possible host towns of the university, determining the topics of the events

Bringing the international gateway function of the region to perfection

„The South-Transdanubian Region – The Gateway between South-East Europe and the European Union”

This brief cultural industrial program promotes the message (“*Pécs: the Gateway to the Balkans*”) formulated by the CCE program.

The Founding of the South-East European Academy

One of the uniqueness of Pécs is that it is the true capital of the Balkan-related studies, researches and trainings in Hungary. The Center for Eastern-Mediterranean and Balkan Studies (PU) coordinates and brings together the related activities.

During the period of 2007-2013 The European Union divides the CADSES into two (a southern and a northern) regions, each will have its own controlling authority. The center of the southern region (SEES) will be in Hungary. Its main objective will be to assist the process of integration in the unstable Balkan region. Therefore many advisory and educational tasks (along with several researches) will have to be carried out by the new SEES center. The city of Pécs will have a decisive role in the liaison with the South-East European region.

The aim of the Academy is to organize short but relevant Balkan-related courses and trainings which will mediate the contents of culture and competetiveness. eg.: Balkan Studies, Islamic Studies, Territorial and Local Development, the aid policy of the EU, local economic development, cultural tourism, etc.

Its reimbursed trainings (CADSES programs) can provide the long-term financial and professional sustainability.

The Academy can rely on the accredited trainings of the organizations (such as the Center for Eastern-Mediterranean and Balkan Studies) already operating in the region.

The Encyclopedia of South-East Europe

We consider it appropriate to launch this project because of the reasons mentioned in connection with the Academy of South-East Europe. The aim of the compilation of the encyclopedia is to emphasize the gateway function of the region and to create a huge (qualitative and quantitative) database with 10000 entries at the beginning. The possibilities for further database extension must be provided along the self-sustaining lines.

The multimedia encyclopedia will be accessible on the Internet in four languages. It provides market possibilities for small- and medium-sized private operators.

Requirements: the provision of a website along with a software needed for the creation of the multimedia content.

Summary

A relatively poor and isolated region such as the South-Transdanubian region possessing rich cultural traditions and situated in the south-eastern borderlands of the EU should find means for benefiting from its cultural heritage and geographical location. This study can be a starting point in elaborating a successful cultural industrial strategy.

REFERENCES

1. Máté, Andrea – Pap, Norbert (2007): Tematikus utak a Dél-Dunántúlon. (*Thematic routes in the South-Transdanubian Region.*) In: Pap Norbert (ed..) *A terület- és településfejlesztés gyakorlata (The practice of the local and regional development)*. Lomart Publisher, Pécs, pp.
2. Pap Norbert-Végh Andor (2003): Uloga, Mjesto i mogucnosti mohacke male regije u jugozapadno-europskim odnosima madarske. In: *Regionalno razvojna problematika Bosne i Hercegovine i Susjednih Zemalja u procesu priblizavanja evropskoj uniji*. Universitet u Tuzlu, Tuzla, pp. 279 – 281.
3. Pap, Norbert – Császár, Zsuzsa (2003): *The Regional Development Questions of the Hungarian-Croatian Border Area*. Koper, (6 o.) megjelenés alatt
4. Pap, Norbert – Tóth, József – Wilhelm, Zoltán (2003): *Der Entstehungsprozesseiner Region im Donautal. 2000 Jahre entlang der Donau. Aus der gemeinsamen Vergangenheit in die gemeinsame EU-Zukunft*. pp. 221 – 233.
5. Pap, Norbert (2007): *Kistérségfejlesztés. (Small region development)*. Alexandra

Publisher, Pécs, 206 p.

6. Pap, Norbert (2007): The Hungarian, Regional Development System. In: Pap, Norbert (ed.): Tolna – a rural area in Central –Europe. Local and regional development in Tolna County, Hungary. Lomart Publisher, Pécs, pp. 9 – 24.
7. Pap, Norbert (2007): The role of small regions. In: Pap, Norbert (ed.): Tolna – a rural area in Central –Europe. Local and regional development in Tolna County, Hungary. Lomart Publisher, Pécs, pp. 47-62.

FREE ZONE – THE SOURCE OF SOCIO-ECONOMIC BENEFITS *

Đula Borozan, Professor
Faculty of Economics in Osijek
Željko Klepo, M.S.
Regional manager of Drayden Zagreb

ABSTRACT

Practice in developed and developing countries indicates the existence of numerous and heterogeneous free zones as well as the different role which they have in the economic development of countries that have implemented them. The main objective for start-up of a modern free zone with industrial characteristics is to attract those investors who will build the industrial infrastructure for the production of goods aimed for exports. Consequently, free zone will contribute, *inter alia*, to the increase in national exports and decrease in deficit of the country's current account, to the creation of new jobs and new added value, to the increase in the dynamics of economic activities and generation of new entrepreneurial opportunities, to the transfer of new technologies, knowledge, skills, good organizational and managerial business practice, as well as to the reduction of regional imbalance.

Experiences of former transition countries indicate that a free zone represents an important policy instrument for the attraction of foreign direct investment, especially the greenfield ones. Furthermore, experiences of developed countries indicate that free zone can act as a policy instrument for promoting regional development and development of a country as a whole. The main purpose of this paper is to consider the benefits that free zones can have on economic and social development of the area where they are located. The Osijek free zone is in the centre of this consideration.

Key words: free zone, benefits, costs, Osijek free zone

1. INTRODUCTION

Croatia has been faced with many macroeconomic problems. Especially noticeable are unemployment, twin deficit, foreign debt and insufficiently fast economic growth. One should note that sufficiently fast and sustain economic growth is a precondition for solving

* The paper was written in the scope of the following projects: "Enhancing Regional Competitiveness to Facilitate Economic Prosperity" (No. 010-0101195-0866)

most of the above mentioned problems. Furthermore, numerous indicators show regional imbalance as the additional Croatian problem although more balanced development of each part of Croatia has been stated in many strategic materials.

According to the Croatian employment bureau (CEB, 2006), the lowest unemployment rate among Croatian counties was in 2005 in the Zagreb city (7.8%), while at the same time the highest rate was in the Vukovar-Srijem county (32.1%). Standard of living, measured by gross domestic product (GDP) per capita, in the Vukovar-Srijem county was also the lowest (2,070 USD), while the highest one had the Zagreb city (23,361 USD).² Furthermore, the share of people with tertiary education aged 15 and over was the biggest in the Zagreb city (22.6%), while at the same time the lowest one was in Virovitica-Podravina county (5.73).³ Regional imbalance is also evident when the value added, entrepreneurial level of activity, intellectual capital efficiency, capital employed efficiency and the other indices come into question (see Borozan and Penavin, 2006).

Free zones and foreign direct investment (FDI) can be used as a tool for solving these problems. Croatia was unattractive for FDI, especially for greenfield investment, till 1998, i.e. peaceful reintegration of East Slavonia, Baranja and West Srijem in Croatia, primarily because of the Homeland war and political instability not only in a country, but also in the South-East Europe. Official statistics recorded FDI in that period, but they were very small in their volume and in most cases they took the form of overtaking or buying a share in state enterprises in the privatization process. Although the situation has been turning to better since 1998, many problems remain unsolved and continuing to hinder inward foreign investment. According to the Croatian National Bank, FDI accounted approximately 11,620 million EUR from 1993 to the second half of 2006 in Croatia. When the Croatian FDI inflows are compared with the same in the Central and Eastern European (CEE) countries, one should conclude that this amount is very small. But, when relative term comes into question, i.e. FDI inflows per capita, situation is more favorable for Croatia. However, considering that most of these investments were made in service sector (communication, trade and banking), and not in production (for export), as well as that most of them are of brownfield and not greenfield character, the need for formulation of the consistent and attractive FDI government policy and programs is obvious.

Croatia has not offered a lot of initiatives for attracting foreign investors. The practice in numerous developed and developing countries indicates that a free zone represents an important instrument for FDI attraction, especially the greenfield ones, as well as for boosting the export orientation of a country. A free zone refers to dedicated and fenced geographical area within the territory of a country in which business activities, which have been performed, are encouraged by the set of policy instruments and incentives in order to achieve certain economic objectives (see Madani, 1999). Because these instruments are not

² Source of data: Centre for intellectual capital (2005)

³ Source of data: Census 2001, Croatian Central Bureau of Statistics

used in the rest of the country, business activities are performed under favorable business conditions. It should be also noted that the practice in developed countries indicates that free zones can foster local and regional development, as well as the development of a country as a whole.

The main purpose of this paper is to consider the benefits that free zones, particularly the Osijek free zone, can have on economic and social development of the area where they are located. Since the favorable effects generated by free zones are determined by the characteristics of the zone alone, in the second section of this paper, free zones are analyzed regarding their definition, roles, types and characteristics. In addition, favorable and unfavorable effects generated by free zones worldwide are listed. The third section deals briefly with the issue of free zones in the Croatian law and their future after accession to the European Union (EU). In the fourth section, benefits generated by free zones in Croatia are identified through the operation of the Osijek free zone. Conclusions are derived in the last section.

2. THE ROLE OF A FREE ZONE IN A COUNTRY'S ECONOMIC DEVELOPMENT

There are numerous and heterogeneous free zones around the world and their roles are different in facilitating a country's economic development in which they are located. Not all zones have growth potential and not all of them positively contribute to the development of a country. It is a fact that favorable contribution to development is not an automatic response of zone existence. It is particularly important to know what kind of free zone it is, i.e. what are its goals, how it is designed, how it is managed, which clients it attracts and is it integrated with the other reforms conducted in a country.

Definition of free zone

Different national and international institutions define free zone in different ways; for example:⁴

- “Free zone means a part of the territory of a contracting party where any goods introduced are generally regarded, insofar as import duties and taxes are concerned, as being outside the customs territory. (Revised Kyoto Convention, Annex D2).
- Free zone means parts of the customs territory of the community, separate from the rest of that territory, in which non-community goods placed in them are considered, for purposes of the application of import duties and commercial policy import measures, as not being within the customs territory of the community, provided they are not released for free circulation or entered under another customs procedure under the

⁴ Source: FDI magazine: Challenges and opportunities, June 20, 2003, <http://www.fdimagazine.com/news/fullstory.php/aid/275>

conditions laid down in this regulation. (Council Regulation (EEC) No.2504/88 of 25 July 1988 on free zones and free warehouses).

- Export processing zones are fenced-in industrial estates specializing in manufacturing for export and offering their resident firms free-trade conditions and a liberal regulatory environment. (World Bank, 1992).
- Export processing zones are industrial zones with special incentives set up to attract foreign investors, in which imported materials undergo some degree of processing before being re-exported again. (International Labor Organization, 1998)."

In Croatia, according to the Law on free zones (NN, 44/96, article 2), a free zone is defined in following way: "A zone is a part of the territory of the Republic of Croatia, enclosed and marked, in which the economic activities are carried out according to some specific conditions." The legislator provided more detailed definition of a free zone in the Custom law (article 171, NN 78/99, 94/99, 117/99, 73/00 and 92/01). The Croatian definition of a free zone is appropriate for the establishment of a modern free zone with industrial characteristics. This type of zones is in the focus of the Croatian authorities due to beneficial effects that they can generate.

Free zone types and their basic characteristics

Typology of free zones is extremely complicated because their historic development was long, and their heterogeneity large.

Difference between modern free zones (with industrial characteristics) and the zones having the function of custom supervision (for example, custom zones, free ports, custom warehouses) were pointed out by the members of the World Export Processing Zone Association at their constituting meeting.⁵ They decided at the meeting that the term free (custom) zone will be avoided in order to avoid possible identification of modern zones with industrial characteristics with the zones with unindustrialized characteristics.

According to the UN (1990) modern free zones can be classified to:

- Trade zones exempted from customs – zones that allow the entrance of raw materials, intermediate goods and final goods being produced abroad without custom duties if they will be later, in refined, processed or finalized way exported (i.e. reexport). Paying duties on goods are performed only in the case when the goods will be sold in domestic market. Within this zone type, one can differentiate between free trade zones, free ports and free zones.

⁵ World Export Processing Zone Association (WEPZA) was founded at Manila, Philippines in 1978 by the UN as an organization of 29 governments experienced in the development of export processing zones. Details are available on <http://www.wepza.org/>

- New zone types – these zone types are different from the classical zones not only with regards to the name, but also to the possibilities of decision making and the realization of decisions, as well as to the possibilities for doing business in different industries, from manufacturing to the services. Technological zones and scientific parks, as well as entrepreneurial zones, belong to these zone types.
- Other zone types – these zones include more or less bounded areas having specific elements of zone operating, like special economic zones (for example, in the coastal areas of China), import processing zones (for example, the zone in Manaus, Brasil), regional development zones, etc.

Guangwena (2003) gives typological diversity of free zones based on industrial structure and evolutive development.

Costs and benefits generated by free zones

Since free zones have begun to play a prominent role in the national economies since the middle of 1960s, issues considering the costs and benefits of free zones have initiated a lot of debate (for review see Cling and Letilly, 2001; Kibritcioqlu, 2003).

Motives underlying the start-ups of free zones in Croatia have been derived from at least three favorable effects which they can induce: employment effects, balance of payments effects and competitiveness effects.

Opposite to the favorable effects and benefits that can be potentially realized by free zones, there are costs and unfavorable effects as well. Unfavorable effects and costs limit the benefits of the zone operating, making it more or less attractive instruments for goal achievement. One should point out especially the adverse effects on the balance of payments, on employment, competitions and on government budget. These adverse effects are mostly connected to the adverse effects generated by foreign direct investments. These favorable and unfavorable effects of free zones are discussed in Borožan (2006).

World experiences indicate that zone can, but not ultimately, effectively operate. For example, the zones in the South Korea, Malaysia, Sri Lanka, China and Indonesia are more efficient, generate much higher returns than estimated costs, and are also the source of employment and a promoter of entrepreneurship (Jayanthakumaran, 2003). However, free zone operating in Philippines resulted in the negative net current values due to the huge capital infrastructure costs arising at the time of start-up.⁶

⁶ See «Foreign direct investment», Challenges and opportunities, from 20.06.2003, (<http://www.fdimagazine.com/news/fullstory.php/aid/275>)

3. Legal frame of the free zone institution in Croatia

Free and custom zones that operated according to the Law on free and custom zones (Official Gazette SFRJ 3/90) at the time of Croatian struggle for independence (end of 1991) continued their operation in independent Croatia according to the new Law on free zones (NN, 53A/91, 94/93 and 25/96). However, this law was obsolete and impartial. It did not allow the transformation of these zones in modern free zones. Amendments to the Law on free zones in 1993 and in 1996 gave the time needed for new law formulation which should been appropriate for transformation of the existed zones and for start-up of new ones.

The new, current Law on free zones passed in the Parliament (Sabor) in May 17th, 1996 became effective eight days after announcement in *Narodne novine* (Official Gazette), no. 44, June 13, 1996. Eighteen different free zones were established based on that law in Croatia. The motives for free zone start-ups in Croatia are different; but, one should know that in a free zone one should, according to the article 33 (the Law on free zones): “make production and provide services. Beneficiaries of a free zone can do banking and the other financial activities, the insurance of properties and persons, as well as the activities of reinsurance only if they are in accordance with the activities prescribed in the paragraph 1 of this article.”

The entrance of foreign investors in a free zone has been induced by the exemption of tax on profit which height and exemption period are bounded. The incentive is defined in the article 36 of the Law on free zones as it follows: “Free zone beneficiary who constructs a building in the zone or participates in construction of infrastructural utilities in the zone in amount higher than 1,000,000 Croatian Kunas is exempt from the tax on profit for the first five years. The other zone beneficiaries are exempt from 50% of tax on profit.” The exemption is stated precisely in the article 15 of the Law on tax on profit (NN 127/00 and 163/03). Besides this incentive potential investors can be interested in exemption from custom and value added tax (this is regulated by the article 27 of the Law on free zones).

The attraction of foreign investor as the main target of free zones has not been successfully enough realized. It is obvious that only solely reduction or complete exemption from tax on profit over certain time period is not a sufficient stimulus.

Regarding free zones in Croatia, there is ongoing conflict between two ministries – ministry of economy and ministry of finance. The first ministry is interesting in attracting more and more foreign investors. In order to ensure new job creation, it motivates investors through different fiscal and financial incentives. Just opposite to this, the ministry of

finance cares about the payment of income and prevention of business malversation, *inter alias*, by strengthening financial and custom supervision. The whole conflict is about the dilemma how, on one side, foreign investors can be motivated to invest in the Croatian free zones with all of benefits generated by them, and on the other side, how to stop the business malversation and to ensure expected budget income inflows from taxes.

Since the unemployment has been the biggest socio-economic problem, there is a permanent pressure on government in direction of more liberal and stimulate law on operation in free zones. Consequently, there were several initiatives for the change of existing law or complete formulation a new law that would cover all issues at once (currently, the zone operation is regulated by the Law on free zones and Custom law (NN, 78/99; 94/99; 117/99; 73/00; 91/01; 47/03). The last try to change the law was in November 2002 when last government⁷ directed the Proposal for new law on free zones and free warehouses⁸. It was formulated with help of the Croatian Free Zone Association⁹. The Proposal foreseen that the amount of tax incentives and the percentage of tax on profit exemption should be determined by the investment amount in long lasting assets and that it moves from 50 to 100% in period from 3 to 15 years. Because of the intense resistance of some parties that made leading coalition at that time, the Proposal did not pass the Sabor's procedure and therefore it was neither considered nor adopted.

Current government¹⁰ is aware of the issues of free zones and one expects that it gives own proposition on the law of free zones. It should be a part of its economic strategy aimed to minimize unemployment and increase production, export and GDP, as well as to increase living standard.

4. FREE ZONES IN THE EU: FUTURE OF CROATIAN FREE ZONES AFTER ACCESSION TO THE EU

Till the accession of new ten countries to the EU (May 1st, 2004), there were only free warehouses and free economic zones in the EU (UN, 1990). According to their characteristics, they can be divided as following:

- free custom zones (mainly in the big sea ports), like Madeira Free Trade Zone (Portugal), Giurgiu Free Trade Zone (Italy), Southampton Free Trade Zone (United Kingdom), etc.
- zones with developed industrial and service activities, like the Shannon Free Zone (Ireland).

⁷ The government of premier Ivica Račan (2000-2004)

⁸ The Proposal on new law on free zones and free warehouses is available on the web site: http://www.mingo.hr/shared/download/n_slZone.pdf

⁹ More information about the Croatian Free Zone Association are available on the web site: <http://www.croatian-freezones.org/en/info1.php>

¹⁰ The government of premier Ivo Sanader (mandate starts in 2004)

These zones aimed firstly (somewhere exclusively) to the cooperation with overseas countries. The new EU members use free zones as an instrument for FDI attraction. In 2004 there were:

- fourteen special economic zones¹¹ in Poland¹²; each of them had several subzones,
- business free zones (custom warehouses), industrial free zones, and industrial parks in Hungary,¹³
- special economic zones and industrial parks in Slovakia,¹⁴
- two free economic zones (Kaunas i Klaipėda) in Lithuania,¹⁵
- two special economic zones: in Liepāja and in Rēzekne, as well as two free ports: Ventspils and Rīga in Latvia,¹⁶
- ten free trade zones, than industrial parks in the Czech Republic,¹⁷
- two free economic zones (in Kopar and Maribor) in Slovenia¹⁸, etc.

During the negotiation processes for the EU accession, each countries – taking into consideration their legislation and economic interests – reached agreement on the transition period over which the zones will operate in unchanged form (for example, Slovenia to 2010, Lithuania to 2013). After transition period is over, they should operate as free economic zones directed to the cooperation with overseas countries or they should be closed. One should note that Ireland, as a member of the EU since 1973, has the Shannon Free zone with 8,000 employees and that it has no intention to close it.

There is a long negotiation period in front of Croatia in which it should negotiate transition period as long as it can during which benefits and privileges in zone operating should be promoted and use for domestic and foreign investor attraction. If Croatia becomes one of the EU countries before 2010, it can keep its free zones till the end of concession terms or at least next ten years, all depending on the skillfulness of its negotiators.

5. OSIJEK FREE ZONE

In 2005, 18 free zones have been registered in Croatia. They are different regarding the achieved stage in their development and efficiency in reaching the targets. In continuation of this paper, the operation of the Osijek free zone will be analyzed.

¹¹ Source: <http://www.link2export.co.uk/marketprofiles/default.asp>, accession: December 2004

¹² Source: <http://www.link2export.co.uk>

¹³ Source: <http://www.ikm.iif.hu/ipatk/index.html>

¹⁴ Source: <http://www.slovensko.com>

¹⁵ Source: <http://www.infolex.lt>

¹⁶ Source: <http://www.kishtpc.com/index.htm>

¹⁷ Source: http://www.factbook.net/countryreports/cz/Cz_TradeRegs.htm

¹⁸ Source: <http://www.gzs.si>

Start-up and the operation of the Osijek free zone

Initiative for establishment the Osijek free zone, before it really started in 1998, was announced twice, in 1993 by the Osijek's firm *Tranzit* and in 1994 by the Osijek-Baranja county, the Osijek county chamber, Osijek airport and the Osijek's firms *Tranzit*, *IPK Osijek* and *Teina*. But, the both announcement remained without positive answers from the authorized Ministry of economy. Only the third initiative for establishment of the Osijek free zone finished successfully. Increasing interest for structural reforms of Croatian society, liberal processes and emerging interest for establishment the free zones in 1996, as well as the Law on free zones and based on it the decision on giving a concession for establishing a free zone (NN 95/96), contributed favorably to it. The initiators were the Osijek-Baranja county, *Slavonska banka d.d.*, Osijek airport, *Klisa* and the Osijek's firms *Tranzit s.p.o.*, *Saponia d.d.* and *Niveta d.d.* The Osijek free zone (Zone in further text) started in June 1st, 1998. Different motives of initiators have determined significantly the work and business performance of the Zone.

The Zone covers the area of 1,0 mil m², including the area of so called New river port, East industrial zone in Nemetin (part of the area of *Saponia* and *Niveta*), parts of Osijek airport *Klisa* and firm *MIO Osijek*. In order to manage the Zone, concessionaires signed in May 5th, 1997 the Social contract on Osijek Free Zone d.o.o., i.e. they established trade company named the Osijek Free Zone d.o.o. (Company in further text). The Company was registered at the Osijek's Trade court in November 25th, 1997. Currently, the Osijek-Baranja county is dominant in the property structure of the Company with the highest share (86.67%), followed by *Tranzit* (8.34%), *Saponia* (3.33%) and Osijek airport (1.67%). It is important to point out that the growth of the Company and Zone is not measured as it is usual in business companies by the income and profit growth, but as a growth in terms of new zone members and new job creation. Besides managing the Zone, the Company is in charge of attracting new investors and creating favorable business conditions.

At the beginning of its work, the Zone operated as a free custom zone because the Zone's domestic and foreign beneficiaries only stored goods in closed or open warehouses, imported used cars and UNPROFOR's goods. Only after the Protocol on establishment the firm Benetton Croatia d.o.o. in Osijek was signed in May 17th, 2000, and after it started in February 1st, 2001, the Osijek free zone was transformed in a modern industrial free zone. This paper discusses the benefits generated by the Zone. The question whether this transformation meets the expected economic and social interests is in the focus of the paper. Since the benefits are conditioned by the ability of the Zone and Company to solve problems they are facing within determined framework, business challenges are identified in the following section.

The Osijek free zone: business challenges

In the early of 2000s, the Zone and the Company have faced many business challenges, among them the following ones can be especially pointed out:¹⁹

1. the model of behavior and work,
2. insufficiency of funds for financing regular business and building up the necessary infrastructure,
3. frequent changes of management boards,
4. overactive influence of political structure of the Osijek-Baranja county on leadership of the Company, and therefore,
5. giving up and indifference of the other founders on their work and future.

The land for which the Zone got the concession to work on in 1997 has been the state property with the right to use by *Luka Tranzit Osijek s p.o.*, *Panonija d.d.*, *Drava d.d.* and *Intereurope – Medjunarodno otpremnistvo d.d.* *Tranzit* included in the Zone's base capital approximately 47 ha of land. During the transformation and privatization that ended in spring of 2004 none of Zone founders tried to contact and discuss the exemption of land on which the Zone operated from the transformation. Since 1997, the Company has been investing important funds in taking care of some else's land and in building infrastructure.

The property on land has determined the Zone model of behavior and work. Before the building their infrastructural utilities, *Panonia* and *Drava* had made contract with the firm *Luka Tranzit*, which was at that time socially owned firm, for the land use in duration of 99 years. Similar contract was also made with the firm *Ascommerce*. In 1997, the Zone made commitment through the contract on land lease to pay rental fee to *Tranzit*. At the same time, the Zone users pay sub-lease for land to the Company. Although monthly amount of sub-lease is not high, the users will multiplicity pay off the value of land on which they operate which at the same time they will never become its owners. In addition, the Company had invested and it still has to invest a lot of money into building infrastructure on someone else's land.

None of Italian entrepreneurs that following Benetton in Croatia has built own buildings. All are working in leased business space. Therefore, they started a business without significant costs while remaining at the same time independent and mobile. If (or when) Benetton decide to move its business to the East (i.e. to the Eastern Europe or to the Far East), they will be able to follow Benetton without big costs. Thus, relying on Benetton itself is quite risky for the Zone's operation.

¹⁹ Analysis of the Osijek free zone, its weakness and strengths, its surrounding and competition is made in the master paper titled "A free zone – the engine of business activities and entrepreneurial opportunities" by Željko Klepo (September 2005).

By buying the halls of *Drava* and *Panonia*, the Company exceeded its financial capacity. Consequently, it is not able to build or to buy utilities that it can rent, or to find investors who will be able to build them on the *Tranzit's* land. Therefore, it is almost certain that nobody can expect new Benetton's cooperants to come. Also, it is hard to expect that some other investors will be ready to build real estates on someone else's land for which they will pay the lease over years, instead of buying its own land.

Compared to the Osijek free zone, the Varazdin free zone is based on different model of behavior and work. Since it is Croatian most successful free zone, where the successfulness is measured by investment especially those of greenfield character, expected employment and export results, understanding of its model of behavior and work is quite important. The Varazdin free zone got concession in 2001, and it is one of the youngest Croatian free zones. Buying out the private land, the city of Varazdin and the Varazdin county ensured approximately 70 ha of land in an attractive location in the community Trnovec Bartlovacki, located not so far from Varazdin. In order to create precondition for new investors after the transformation of the property, they built roads and the other necessary physical infrastructure and then parceled the land. Afterwards, they started proactively to seek investors. When all firms start with their operation, employment in the Varazdin free zone will find approximately 3,000 workers and export will exceed 500 mil euros.²⁰ This experience of the Varazdin free zone is instructive for further development of the Osijek free zone.

The Osijek Free Zone d.o.o. financed the infrastructure building from its base capital till 2002. After finances have been exhausted, the Company obtained twice financial assistance from the Osijek-Baranja county's budget (400,000 Kunas in 2000 and 800,000 Kunas in 2003) as well as from the state budget (3.5 Million Kunas in 2004). Currently, the Company is not financially self-sustainable, i.e. it is not able to service its credits or regular expenses from its own regular incomes.

In seven years of its existence the Company has changed four management boards. The boards have been working too short time to understand and solve all of the issues facing the Zone and to finish their mandates. In addition, the break of managerial contracts and the costs of court process with ex management boards represent a heavy financial burden.

The Osijek-Baranja county appoints and replaces the management boards. The County's prefect chairs the board meetings, Deputy County's prefect is a president of supervision board (SB), the member of the county government is a member of SB, the member of the city authority of Osijek is the second member of SB. The Osijek-Baranja county, assembly or Company's SB tried to interfere with the work of the board (the company

²⁰ Information about the Varazdin free zone is available on the Zone website: <http://www.slobodna-zona.hr/hrv/naslov-na.php>. See also in Privredni vjesnik, no. 3415, November 14, 2005, pp. 5-7

management). Too big influence of the County and the politization of the work of the Company and Zone could lead and has been led to the passivity and later to withdrawal of some founders (business shares in the Company were sold first by the *Slavonska banka*, than *Niveta*. *Saponia* has not participated actively in the work of the assembly for several years.

The arrival of the Benetton Group in Osijek and Zone has meant the engagement of the free capacities in the textile industry not only in the County but in whole Croatia. Benetton Croatia generated a numerous benefits to the Zone and Osijek, but mostly to unemployed who found a job in Benetton Croatia or with its cooperants. However, after the Benetton and Italian entrepreneurs came in the Zone, the Company should not cease to attract foreign investors. It is quite indicative that none of well-known investors came into Zone after 2002. To base the entire future of the Zone solely on Benetton Croatia is extremely risky.

Contribution of the Osijek free zone to the Osijek-Baranja county's socio-economic development

Although the operation of the Zone and Company is burdened by numerous problems, it is possible to identify a lot of socio-economic benefits generated by the work of Zone and Company as well as by the arrival of Benetton and the establishment of Benetton Croatia. Since the precise quantification of the benefits requires the detailed and for the public available statistical data base, and estimation for some benefits (e.g. for the spillover effects), this paper considers the following benefits on a descriptive level:

- Image improvement of the Osijek-Baranja county and Croatia. The Osijek free zone was the first one in Croatia that attracted big and well known foreign investor. Benetton arrival in Osijek was a sign to other investors that Croatia and its free zones are safe and favorable location for investment.
- Arrival of Benetton's Italian cooperants. Quickly after the Benetton Croatia started, three Italian entrepreneurs - cooperants shown the intention to start-up in the Zone. But, two of them actually started; the third investor opened its plants in the Podunavska free zone.
- Creation of new value-added. Zone firms and firms located out of the Zone, but closely tied with the Zone firms, have contributed significantly to the creation of new value-added in the Osijek-Baranja county. For example, the share of the Benetton's value-added in the total value added of the Osijek-Baranja county was 2.67% in 2002, and 4.56% in 2004 (according to the data of the Centre for intellectual capital).
- Employment. Benetton Croatia employs directly approximately 200 workers. Although the salaries are lower than the average Croatian salary, it employs

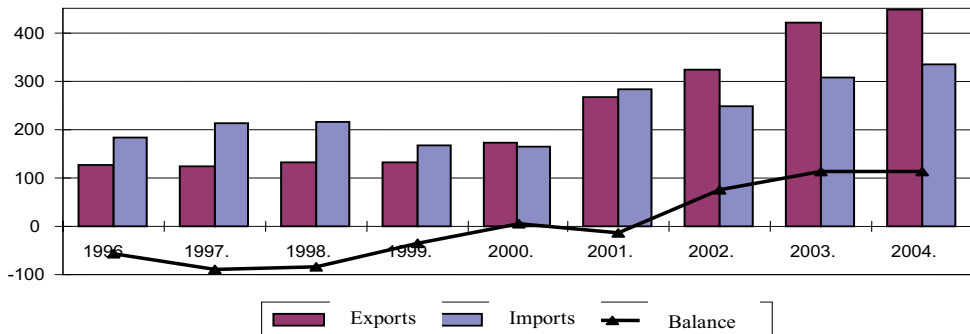
mostly the most endangered category of work force on labor market – women with lower educational level. Consequently, besides economic effects (value added creation), employment has also a favorable social component. In addition, Benetton's workers acquire new knowledge and skills, which contribute to the increase in human capital of the County.

- Textile cluster establishment. Simultaneously with the initiation of the manufacturing in Osijek, Benetton worked on the development of the cooperative network. In order to find cooperants that could meet the rigorous quality inquiries, Benetton's experts visited almost all firms in Croatian textile industry that showed interest for cooperation. In textile cluster, 46 firms have been networked; they employ more than 4,000 employees (13 firms are located in the Osijek-Baranja county). Since the firms in textile cluster are close to each other, they can, through the spillover effect of knowledge and good business practice, create higher value added and have better business performance.

One should note that the whole industry in Osijek was badly hurt by the Homeland war and the process of privatization. Textile industry particularly suffered at that time. The most part of textile industry vanished through the bankruptcies before the Benetton came (*Svilana, LIO*), or they were in the process to bankrupt (*Mara, Tekos, BTI*). Since this industry employed mostly women work force, Benetton has been for them the only hope to keep job in existing firms or to obtain the job in newly opened firms.

- New entrepreneurial opportunities generation and intensification of entrepreneurial activities. Many existing textile firms found the exit from crises in which they, as well as whole Croatian textile industry, has been. There are many cases in which new firms were established only for business cooperation with Benetton Croatia (for example, *Osijek konfekcija* and *Konfekcija Antonazzo*). Furthermore, Italian region Veneto has developed good business cooperation with the County in many business fields; the Osijek county chamber has good business relations with the Veneto's craft chamber. Region Veneto is one of the most industrially developed Italian regions.
- Increase in exports of the Osijek-Baranja county. Export-import activities in the Osijek-Baranja county have significantly risen after the arrival of the Benetton Group while deficit in 1990's started to stagnate (see Figure 1). Benetton Croatia is not only the biggest exporter in the Osijek-Baranja County, but also it is one of the biggest exporters in Croatia. For example, in 2004, they ranked 6th on the top Croatian exporter list (Privredni vjesnik, No. 3404, from July 14th, 2005). According to the Osijek county chamber, the biggest share in the County's export structure comes from the export of clothes and *equipment* (44.76%).

Figure 1: Foreign trade statistics for the Osijek-Baranja county during 1996 – 2004 (in 000 USD)



The source of data: Statistical report (different numbers), State administrative office in the Osijek-Baranja county, Office for Statistics

6. CONCLUDING REMARKS

Experiences accumulated from the Osijek free zone, which obtained work permit in June 1st 1998, indicate that the Zone alone is not organized on the model that will enable it to reach better business results, attraction of more investments (domestic and foreign) and bigger contribution to the economic growth and development of the County. The reasons why this is so are linked with the problems burdening the Zone and Company operation: doing business on the land that belongs to *Tranzit*, model of behavior and work, insufficiency of financial funds, frequent changes of the management boards, overwhelming impact of political structure on the leadership of the Company and consequently indifference of some founders for the Zone work and its future as well as leaning only on Benetton Croatia. Land property determined the model of behavior and work of the Zone. The Zone made commitment to pay the lease to *Tranzit* by the Contract on land lease. At the same time, the zone beneficiaries pay sub-lease to the Company for the land. It is hard to expect the existence of strong interest to build on someone else's land. On the other side, the Company invested and still needs to invest a lot of money for infrastructure building on someone else's land. Furthermore, the Company is able neither to service a credit, nor to finance regular expenditure from its regular income. In seven years of its existence the Company changed four management boards. The boards functioned too short period of time to realize what an existing situation is and to do their mandate. Too big influence of the county (the County names and replaces the Boards, etc.) and a politization of the work of the Company and the Zone lead to passivity, and later to withdrawal of some founders. The arrival of Benetton Group in Osijek and the Zone meant employment of free capacities not only in the County's textile industry, but

in Croatia as a whole. However, from 2002 the Company failed in attraction of new big foreign investors. Besides Zone management, the main task of the Company is to attract new investors and to create favourable business conditions.

Although the operation of the Zone and the Company has been burdened by numerous problems, it is possible to identify many socio-economic benefits that resulted as a consequence of the Zone operation, the Benetton arrival and start-up of Benetton Croatia. Some of them include: improvement of the Croatian image as the country which is safe for foreign investors, increase in value added, reduction of unemployment, improvement of foreign trade balance, textile cluster organization, and new entrepreneurial opportunities generation. Considering these benefits, the Zone has justified certain levels of its operation and invested funds.

The experiences accumulated from the Osijek and Varazdin free zones indicate that the zone efficiency should not be measured only by the number of the zone clients, the number of newly created jobs, and by the export outcomes of the zone firms, but also by the contribution which zone has in creating the region's value added, in the increase in intellectual capital and in improvement of the region's competitiveness. In addition, it is equally important to know how much zone contributes to the increase in the quality of life and economic prosperity of the region in general. Real dimensions of the economic benefits from the Osijek free zone can be estimated only by taking into account the long run relations between the costs and benefits (considering also their ecological, economic, socio, and other dimensions). The case of the Osijek free zone indicates that during the assessment of benefits, *inter alia*, the following issues should be considered:

- the Zone attracted the labor intensive industry from abroad, i.e. the clients which use relatively simple technology, for which usage is not required highly educated labor force,
- the full operation of the Zone foreign firms is poorly transparent,
- long run interest of firms in Zone for doing business within the Zone is very poor; they also do not show the responsibility for the life quality improvement in the Zone environment,
- the Zone employees are poorly paid; most employees are of lower education levels. Because the unemployment rate of these workers' categories alone is the highest in the Osijek-Baranja county²¹, they are easily replaceable, which makes their bargain power regarding work conditions extremely low.
- the absence of professional and responsible policy of human resource management among the most important Zone firms is visible,
- labor costs, availability and expertise of work force, generous initiatives and low costs of start ups were the key attractors for coming the Benetton's – the biggest and the most important Zone's client.

²¹ The Osijek-Baranja county is one of the 21 Croatian counties.

The experiences of the developing countries indicate foreign firms, which are only attracted by these attractors, are inclined to continuously reevaluate the attractiveness of other locations in order to cut further the costs of operating and in some cases to blackmail the host country. In addition, such foreign firms do not show serious intentions to improve labor productivity through investments in new technologies or improvement in knowledge and skills of their employees.

Inadequate policy of human resource management and the low social responsibility of zone firms have limited the benefits generated in the zone, and especially its growth potential. In addition, poor transparency of zone firms, incoexistence with the space, environment and the society in which they are living, the failures of local authorities to establish adequate legal regulations and an efficient mechanism for continuous monitoring of the impacts on environment have become very serious problem.

LITERATURE

- Borozan, Đ.: Challenges to the Assessment of Beneficial Effects Generated by Free Zone: Lessons from Croatia, *International Journal of Business Research*, vol.V, 1, 2006.
- Borozan, Đ. and S. Penavin: Regional Imbalance as the Constraint in Enhancing National Competitiveness, international conference "From Transition to Sustainable Development: The Path to European Integration", ICES 2006, 12.-13.10.2006., CD: session D: Competitiveness of Transition, Sarajevo, Bosnia and Herzegovina
- CEB (Croatian Employment bureau): *Godisnjak - 2005*, Zagreb, 2006.
- Centre for intellectual capital: *Intelektualni kapital: uspjesnost na nacionalnoj, zupanijskoj i poduzetnickoj razini*, Zagreb, 2005.
- Census 2001, Croatian Central Bureau of statistics, www.dzs.hr
- Cling, FJ.-P. and G. Letilly: Export Processing Zones: A Threatened Instrument for Global Economy Insertion? 2001, Document de Travail, DT/2001/14, www.dial.prd.fr/dial_publications/PDF/Doc_travail/2001-17.pdf
- Custom law, NN 78/99, 94/99, 117/99, 73/00, 92/01, 47/03

- FDI magazine: Challenges and opportunities, June 20, 2003, <http://www.fdimagazine.com/news/fullstory.php/aid/275>
- Guangwen, M.: The Theory and Practice of Free Economic Zones: a Case Study of Tianjin, Peoples Republics of China, doctoral thesis, 2003, Heidelberg, <http://heidi.ub.uni-heidelberg.de/volltextserver/volltexte/2003/3244/pdf/fez-meng.pdf>
- Jayanthakumaran, K.: Benefit-Cost Appraisals of Export Processing Zones: A Survey of the Literature, Development Policy Review, Overseas Development Institute, vol. 21(1), 2003.
- Kibritcioqlu, A.: Free Zones in Turkey and Their Macroeconomic Effects, RePE: wpa:uwupit:0301001, 2003, econwpa.wustl.edu/eps/it/papers/0301/0301001.pdf
- Klepo, Z.: Slobodna zona – pokretac gospodarskih aktivnosti i poduzetnickih prilika, master paper, Ekonomski fakultet u Osijeku, Osijek, 2005.
- Law on free zones, NN 53A/91, 94/93, 25/96, 44/96
- Law on tax on profit, NN 127/00, 163/03
- Madani, D.: A Review of the Role and Impact of Export Processing Zones, World Bank Working Papers 2238, World Bank, 1999, www-wds.worldbank.org
- Privredni vjesnik, no. 3404, from July 14, 2005.
- Privredni vjesnik, no. 3415, from November 14, 2005. (Baron-Brljevic, B.: Slobodne zone: Varazdinsko poduzetnistvo najvisih globalnih standarda)
- Proposal on new law on free zones and free warehouses, http://www.mingo.hr/shared/download/n_slZone.pdf
- Statistical report, State administrative office in the Osijek-Baranja county, Office for Statistics
- UN (United Nations), Economic and Social Council Commission for Europe (1990). Special Economic Zones (SEZs), Trade/R. 558/Add.2, November 15, 1990.
- <http://www.link2export.co.uk>
- <http://www.link2export.co.uk/marketprofiles/default.asp>
- [http:// www.ikm.iif.hu/ipatk/index.html](http://www.ikm.iif.hu/ipatk/index.html)
- <http://www.slovensko.com>
- <http://www.infolex.lt>
- <http://www.kishtpc.com/index.htm>

GENDER PAY GAP IN THE EUROPEAN UNION LABOR MARKET *

Ivana Barković, Associate Professor
Faculty of Law in Osijek

1. INTRODUCTION

The participation of women in the European Union labor market has been increasing over recent years, putting an end to the notion that women are a marginal part of the labor force. However, such increased integration of women into paid work has neither ended the traditional gender divide between jobs nor it translated into gender equality in terms of economic opportunity and economic participation in the labor market.

According to the official statistics of the European Commission (2005), women make up no less than 41% of all adults in the community who are working or actively looking for a job. The gap of women's unemployment of 12% is almost double the rate for men. The long term unemployment of women reaches 55% of total. Furthermore, discouraging data on how women fare in the European labor market can be also seen in terms of occupational segregation and pay gap in comparison to men. Based on such adversities faced by women, the European Union (EU) has been promoting gender equality in accordance with articles of Amsterdam Treaty (1998), which goes beyond the elimination of existing inequalities to active promotion of positive actions to ensure real equality.

The purpose of the paper is to briefly discuss the gender pay gap in the EU labor market. The paper defines gender pay gap and provides a brief theoretical overview of the underlying causes of such pay asymmetry between men and women. Statistics provided for EU 25 reveal that the current policy attempts to reduce such a gender asymmetry still lack improvement in practice. The paper concludes with selected policy suggestions aiming to make a progress in the issue of the gender equality in pay.

2. ORIGINS OF THE GENDER PAY GAP

The gender pay gap is determined by calculating women's overall average pay as a percentage of men's. For example, the pay gap is said to be 18% where women's pay is 82% of men's. To arrive at a figure for the gender pay gap most official statistics compare the average hourly earnings of men and women working full-time, as the best way to compare 'like with like'. This accounts for differences in hours worked.

* The presented results are the outcome of the following project: Theory and Practice of Institutional Approach to the Regional Development (No. 111 - 0101427 - 0784)

Difference in gender inequality related to pay gap has been most commonly attributed to the discrimination against women in the labor market. However, despite of improving gender equality legislation and anti-discrimination laws, the gender gap in pay continue to exist. Hence, the persisting difference in the average pay of men and women in the labor market is the result of many factors. In addition to differential and discriminatory treatment of women by employers, these factors also include differences in the characteristics (such as average labor market experience) that men and women bring to their jobs as well as the differences in the characteristics of the jobs in which men and women work.

From the theoretical point of view, there are three most common economic theories that are being used to explain the factors underlying the gender pay gap: (i) human capital theory; (ii) dual labor market and (iii) the reserve of army.

The human capital theory attributes income differences to the variations in education, labor market experience and commitment to the labor force. *Dual labor market theory* suggests that the work force is divided into primary and secondary sectors. The first one consists of skilled, unionized, well-compensated and stable jobs, while the second one encompasses temporary, low-paid jobs with less upward mobility and less benefits. *The reserve army of labor theory* suggests that the structure of capitalism itself depends upon the existence of a cheap, expendable, renewable pool of workers.

Various studies that have been conducted to explain the pay gap (e.g. Bryson and Forth, 2006, Blau and Kahn, 1996, 2000, Olsen and Walby, 2004) which have been often based on one or more combination of above mentioned economic theories. Results vary and none can account for the entire difference in the average earnings of men and women. A brief elaboration on the different factors captured by these theories follows.

Traditionally, women are likely to have shorter careers than men (of the same age) because of childbearing and child rearing which interrupts women's careers. Women are likely to have shorter careers than men because they often do not work full-time through their working lives. Differences in labor market experience between men and women reflect on women's educational attainment. Expecting a shorter and more discontinuous working time, women are less likely to invest in market oriented formal education, which in turn reduces their productivity and translate in lower wages.

Men and women tend to work in different occupations and sectors. Wages differ substantially according to the gender composition of the occupation/sector. Women tend to concentrate more in service and clerical jobs, which are traditionally low-paying, while men continue to remain dominant in professional and managerial occupations that are high-paying (ILO, 2004). This is partly due to the past discrimination when women were kept from obtaining the necessary qualification and support to compete in traditionally male

occupations, and partly due to the choice of women to choose occupations and industries where there is more flexibility in order to balance the need of work and family which led to occupational segregation. Although occupational desegregation has been taking place since 1970's, the rate of desegregation has not been sufficient for closing the gap.

Female unemployment rate is globally higher than men (ILO, 2004). Pay gap theorists suggests that such adverse statistics makes the women the reserve army, which has insufficient bargaining power in the labor market.

In addition to economic theory reasoning for the gender pay gap, social and cultural attitudes towards family structure still work against women. Women have been increasingly entering labor market being driven by the conventional factors of economic conditions, a sense of devaluation of domestic role and a desire of self-fulfillment (Muragai, 1999) but it has not brought lightening in their family responsibilities towards the domestic work, child/family care and the like.² The double-shift burden remains one of the challenging issues that is closely related to the lower economic participation of the women as well as the lower economic opportunity of the women in the labour market.

3. GENDER PAY GAP IN THE EU

The gender pay gap is considered to be a reflexion of a multitude inequalities between women and men on the labor market particularly in terms of economic participation (e.g. presence in the labor force,), economic opportunity (e.g. occupational differences, etc.) as well as educational attainment (e.g. education of comparable quality and content, etc.). Thus, closing the gender pay gap has moved up the policy agenda of the EU.

The European Council of Ministers in June 2003 agreed to new guidelines for EU member states in pursuing the European Employment Strategy. These included a requirement that with a view to its elimination, policies will aim to achieve by 2010 a substantial reduction in the gender pay gap in each Member State. However, current policies targeted towards the gender pay gap closure have not been very successful. Even though the equal pay for work of equal value is a basic principle in the EU, data reveals that women continue to earn less than men. The gender pay gap across the 25 EU countries has remained significantly high over the last few years, ranging from 15 - 25% (table 1).

² For example, women in world, e.g. Australia, work 38 hours at home alone doing housekeeping and providing child-care compared to 16 hours of man's engagement at home activities. Combined with working hours at work, women work 1.5 months more than men. The more dramatic results come from Central and Eastern Europe where women work 85 hours at work and home together compared to men who work 70.6. Twenty years ago women in transitional economies worked 70 hours per week which represented a significant difference compared to 55 working hours of women from Western countries (Petrović, 2002).

Table 1 Selected indicators for gender gap

	Unemployment rates, Jan 2006*		Employment rates, Q2 2005**		Employed part-time as a share of total employment, Q2 2005***		Share of female managers in total managers Q2 2005***	Gender pay gap, 2004****
	Women	Men	Women	Men	Women	Men		
EU/25	9.6	7.6	56.3	71.2	32.6	7.3	32.1	15e
Belgium	9.7	7.6	54.1	67.7	40.7	7.1	32.9	6
Czech Republic	9.6	6.3	56.0	73.3	8.4	2.1	30.3	19
Denmark	5.0	3.8	70.8	80.1	32.7	12.8	23.0	17
Germany	10.2	8.2	59.3	71.1	44.3	7.7	26.4	23
Estonia	6.2	6.2	63.5	66.5	10.4	4.9	37.5	24
Greece	15.5	6.4	46.2	74.5	9.1	2.1	25.8	10
Spain	11.0	6.6	51.2	75.0	24.9	4.7	32.3	15
France	10.1	8.3	57.9	69.0	30.9	5.7	37.1	12
Ireland	3.8	4.7	58.0	76.2	24.4	5.0	30.2	11p
Italy	9.7	6.0	45.4	70.2	25.7	4.5	31.9	7p
Cyprus	6.4	4.5	58.5	79.5	13.8	5.1	13.6	25
Latvia	7.8	8.5	59.4	66.9	11.6	7.6	44.3	15
Lithuania	7.3	6.6	59.2	66.3	8.5	4.6	42.7	16
Luxembourg	7.8	3.8	50.6	72.4	40.2	2.4	26.3	14
Hungary	7.5	7.0	50.9	63.0	6.1	2.9	34.3	11
Malta	9.8	6.9	33.6	73.5	19.3	4.7	14.5	4
Netherlands	5.0	4.3	66.4	79.9	75.3	22.6	25.6	19
Austria	5.6	4.9	61.7	75.1	38.7	5.9	27.0	18
Poland	19.1	15.6	46.4	58.2	14.2	7.7	32.5	10
Portugal	8.7	6.9	61.9	73.4	16.6	7.1	34.2	5
Slovenia	6.7	6.1	61.7	70.2	11.0	7.1	32.8	9
Slovakia	16.6	15.2	50.8	64.1	3.9	1.2	31.2	24
Finland	8.8	7.7	67.4	71.0	18.5	9.1	29.7	20
Sweden	6.3	6.4	70.5	74.6	39.9	11.8	29.8	17
United Kingdom	4.5	5.4	65.8	77.3	43.1	10.6	34.5	22

Source: EUROSTAT 2006

Among the EU member states, the UK has been ‘leading the way’ for a long time together with Germany, Slovakia, Estonia and Cyprus with pay gaps above 20%. By contrast, France had a gender pay gap of about 12% (EUROSTAT, 2006).

One can trace the causes of persistent gender pay gap in somewhat discouraging statistics³ in gender inequalities related to the unemployment and employment rates, occupational segregation – both horizontal and vertical, as well as in the part-time work.

According to data, the employment rate for women rose to 55.7% in EU-25 in 2004 which is up for 0.7 percentage points compared to 2003 which reduced the employment rate gap to 15.2 points in 2004, down from 18.1 points in 1999. At the same time, male unemployment has similarly increased and coupled with reduction in female unemployment contributed to narrowing of the unemployment gap down to 2.1 points, which is fast a full point lower than in 1999.

Furthermore, the strongest cause of gender pay gap remains continuous occupational segregation⁴ – both horizontal and vertical. Across EU, women dominate employment in

³ Source of data: European Commission (2006)

⁴ The concentration of men and women in different kinds of job is known as occupational segregation. *Horizontal segregation* is where the workforce of a particular industry or sector is mostly made up of one particular gender. An example of horizontal segregation can be found in construction where men make up the majority of the industry’s workforce, whereas childcare is almost exclusively a female occupation. *Vertical segregation* is where opportunities for career progression within an industry or sector for a particular gender are narrowed. Vertical segregation disproportionately affects women more than men. For example, women are less likely to work as managers or senior officials than men.

sectors such as health care and social services, education and public administration and retailing while a disproportionate number of men work as technicians, engineers, finance professionals and managers. Occupational segregation continues to rise in EU countries whereby the horizontal segregation accounts for 25.4% in 2005 and vertical segregation 18.1%.

Far more women than men continue to work part-time, with 32.6% of women in the EU25 working part-time, compared with 7.4% of men. Part-time work done mostly by women may be partly explained by the women's personal preferences in order to easier balance work (i.e. career) and private life (i.e. family care) but it nevertheless reinforces the pay gap since it further reflects in vertical segregation. Since women tend to be less committed to the labor market in time-wise due to childbearing and child rearing which interrupts women's careers, it contributes to perpetual vertical segregation. Women climb the career ladders within the enterprise much less than men. Women account for only 32% of managers, 10% of board members and only 3% of CEOs of the large EU enterprises. Educational attainment of women has been increasing and currently women outnumber men as graduates in education and research (59%) but their presence decreases consistently as they progress in their career which is supported by the statistics that out of 43% of Ph.D. held by women only 15% become full professors.

4. CONCLUDING REMARKS

The gender equality has been positioned high on the priority list of the EU to ensure growth and employment for its member states. However, the practice shows that the gender gaps in the labor market have been persistent across the EU 25. This is particularly evident when examining the pay gap between men and women's pay, which has hardly changed in the last few years. Such a continuing disparity has a number of underlying causes, including segregation of occupations and sectors of work for women and men, differences in education and training, interruption of careers, and the way in which jobs are classified and valued, and wage formation systems used. In addition, part-time work – which is generally less well paid than full-time work – is far more prevalent among women than among men.

In order to truly promote gender equality in pay, the special attention should be given to decrease or eliminate the underlying causes of it. The special attention *inter alia* should be given to:

- more effective implementation of existing legislation and more active involvement of social partners;

- creation of new specific anti-discriminatory labor market legislation that will provide equal opportunities for both men and women to compete for jobs;
- public efforts to increase awareness and combat stereotypes when it comes to gender classifications (e.g.. female occupations vs. male occupations);
- establishment of family friendly and supportive policies that will lessen the burden of working women allowing to balance better between family care and work;
- reinforcement of gender mainstreaming into all relevant policy areas and development of appropriate institutional mechanisms, organizational arrangements and resources

Gender gaps in general and gender pay gap in particular are challenging tasks to tackle since they represent a complex interplay of economic, political and social issues, norms and values. As such, they will continue to call for a great commitment of the EU in legislative, institutional and organizational terms in order to ensure gender equality. Reducing the gender gaps and eliminating them as much as possible will allow EU to achieve better allocation of human resources and will strengthen its competitive potential in the world.

5. LITERATURE

1. Blau, F. D., Kahn L. M. (2000): Gender Differences in Pay, *Journal of Economic Perspectives*, Vol. 14, No. 4, pp. 75 – 99
2. Blau, F. D., Kahn L. M. (1996): Wage Structure and Gender Earnings Differentials: An International Comparison, *Economica*, 63, pp. 29- 62
3. Bryson, A., Forth, J. (2006): The Theory and Practice of Pay Setting, NIESR Discussion Paper, No. 285, December.
4. European Commission (2006): Report on equality between women and women, Directorate-General for Employment, Social Affairs and Equal Opportunities, Unit G1, February.
5. EUROSTAT (2006): A statistical view of the life of women and men in the EU25, 8th March.
6. International Labour Organization (2004): Breaking through the glass ceiling – women in management, Geneva.
7. Muragai, S.R. (1999): Motivation to Manage: A comparative Study of Male and Female Library and Information Science Students in the USA, India, Singapore

and Japan. Council and General Conference Proceedings of International Federation of Library Association. Thailand.

8. Olsen, W. K., Walby, S. (2004): *Modelling Gender Pay Gaps*, Manchester, Equal Opportunities Commission.
9. Petrović, J.A. (2002): *Diskriminacija žena u Hrvatskoj*, ICFTU CEE Women's Network, Ženska sekcija SSSH, Zagreb.

COMPUTER DATA ANALYSIS AIMED AT CONSTRUCTING A MODEL OF ESTABLISHING THE FACTORS WHICH DETERMINE HOUSEHOLD SAVINGS IN THE REPUBLIC OF CROATIA*

Darko Dukić, D.Sc.

Gordana Dukić, D.Sc.

ABACUS tuition, research and business consultancy, Osijek

Davorin Turkalj, B.Sc.

Faculty of Agriculture in Osijek

ABSTRACT

Examining the relationships between different economic variables has been significantly simplified through the usage of computer analysis. What used to be very complex procedures requiring considerable finances and amounts of time are now greatly reduced thanks to computer technology and adequate software applications. In addition, advances in communication and development of computer networks have provided universal interconnectedness, and thus also permanent accessibility of different data necessary for conducting economic analyses. In this way business entities and macroeconomic policy makers are able to react in a timely manner to changes in the environment, and thus make decisions based on relevant indicators. This paper intends to demonstrate how computer analysis can be applied to construct a model for establishing the factors which determine household savings in the Republic of Croatia. Time and savings deposits of households are an important economic category. They are the source of funds used for loans to both households and businesses. To establish the factors with the heaviest impact on household savings multiple regression analysis was used. In this paper special attention was given to the possibilities of the software package *STATISTICA 6.0* intended for solving various statistical problems.

Key words: computer data analysis, model, relevant variables, time and savings deposits of households, multiple regression analysis

* The presented results are the outcome of the following project: Regional University (No.)
The paper was written in the scope of the project: Regional University (No. 010-0101427-0837).

1. INTRODUCTION

In economic theory, household (private) savings are defined as the difference between disposable income and consumption. In this context, disposable income can be simply determined as the difference between gross domestic product and taxes. Private savings are treated as one of the major model variables in macroeconomic research. Time and savings deposits of households are not only sources of funds for extending loans to individuals; they are also the basis for investment into the business sector. This indicates the dual role of household savings. In the short run, they aid the growth of gross domestic product through increases in private and investment spending, whereas in the long run it is clear that economic growth is possible only with investments, which are funded by savings.

Deposit business belongs to passive banking business. The banking sector's interest is to market the funds obtained through savings as loans, and to increase its profits by keeping the difference between interest rates on loans and deposits. One consequence of such endeavours is the increase in loans extended by the banks to finance unproductive spending. Excessive debt incurrence without economic justification can bring about negative cyclical movements and result in serious macroeconomic instabilities when a significant number of debtors are incapable of repaying their debts. One should also consider the fact that the credit activity of banks has a direct impact on money supply and the occurrence of inflationary pressures. A particular problem is the foreign debt increase stimulated by the banking sector. These tendencies are a result of money shortage on domestic financial markets, i.e. increased demand for credit. In conclusion, mobilization and concentration of free financial assets is a basis for developing the financial potential required for business expansion. On the other hand, uncontrolled credit expansion can have far-reaching consequences.

In the total supply of time and savings deposits the biggest share is accounted for by household savings. Their detailed interpretation is therefore necessary to fully understand overall economic processes. For a correct assessment of the character and dynamics of household savings macroeconomic policy makers need to determine the variables having the strongest influence in this area. Bank management also needs to identify the factors which determine household savings, and to establish to what extent a particular factor is influential. With this knowledge it will be possible to take timely measures to ensure sufficient supply of deposited funds required for normal functioning of an economy.

A proper analysis of the above issues would be very difficult without computers and appropriate software. They allow us to make a relatively simple assessment and evaluation of structural parameters, as well as to test the model for adequacy. The model formulated in this paper is founded on computer data analysis, and is thus the basis for a systematic and continuous examination of the factors which determine household savings.

2. TIME AND SAVINGS DEPOSITS WITH BANKS

In the framework of their passive business, banks mobilize free assets from other sectors functioning within a national economy. It is customary to make a distinction between kuna deposits and foreign currency deposits collected in this manner. It should be noted that foreign currency savings deposits are all foreign currency sight deposits and foreign currency payment instruments issued. Foreign currency time deposits also include foreign currency notice deposits.

Table 1 lists the data on time and savings deposits with banks in the Republic of Croatia, broken down by sectors, on 30 September 2006.

Table 1: Time and Savings Deposits with Banks in the Republic of Croatia by sectors on 30 September 2006

SECTOR	TIME AND SAVINGS DEPOSITS WITH BANKS (million kuna)			
	Kuna deposits	Foreign currency deposits	Total	Share (%)
1. Savings deposits	2877.02	23790.69	26667.71	20.31
1.1. Local governments	3.50	16.84	20.33	0.02
1.2. Enterprises	193.06	4861.86	5054.92	3.85
1.3. Households	2676.36	18527.27	21203.63	16.15
1.4. Other banking institutions	-	171.55	171.55	0.13
1.5. Non-banking financial institutions	4.11	213.17	217.28	0.17
2. Time and notice deposits	43278.78	61382.35	104661.13	79.69
2.1. Local governments	1008.94	1.98	1010.93	0.77
2.2. Enterprises	14708.81	6336.55	21045.36	16.02
2.3. Households	22049.90	53859.99	75909.90	57.80
2.4. Other banking institutions	1581.11	241.10	1822.21	1.39
2.5. Non-banking financial institutions	3930.02	942.73	4872.75	3.71
Total (1+2)	46155.80	85173.04	131328.84	100.00

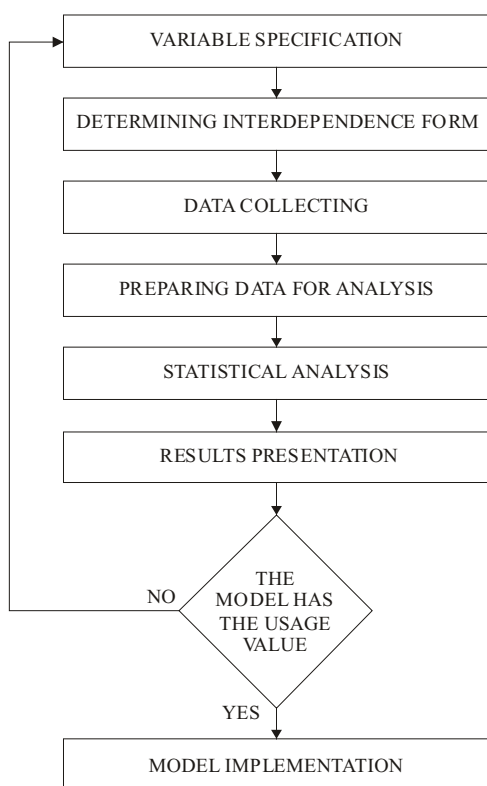
Sources: "Time and Savings Deposits with Banks", <http://www.hnb.hr>;
 "Foreign Currency Deposits with Banks", <http://www.hnb.hr>.

The presented data indicate that time and savings deposits of households accounted for as much as 73.95% of total assets mobilized by banks in this form on the domestic financial market. The household sector is followed by companies which account for a 19.87% share. All the other sectors held only 6.18% of the total amount of time and savings deposits. All this makes it clear that household savings are essential for normal functioning of an economy.

3. FORMULATING A MODEL FOR ESTABLISHING THE FACTORS WHICH DETERMINE HOUSEHOLD SAVINGS IN THE REPUBLIC OF CROATIA

In formulating a model for establishing macroeconomic variables with the greatest influence on household savings in Croatia it is possible to identify several basic phases. These phases are given in the diagram below.

Figure 1: Phases in constructing a model for establishing the factors which determine household savings in the Republic of Croatia



In the first phase of model construction we need to specify all the variables which are relevant in examining the factors of household savings. Here we need to make a distinction between the dependent (response) variable and independent (predictor) variables.

In the second phase it is necessary to establish the interdependence patterns connecting

the variables included in the model. Taking into account that the dependent variable varies with respect to the changes in values of independent variables, such interdependence in this analysis can be defined as stochastic, although the deterministic component is an integral part of the model. It will furthermore be assumed that the relation obtaining between the dependent variable and independent ones has a linear character.

Once the interdependence forms have been established, we begin with data collection. The data required for our analysis can be extracted from the publications produced by some state institutions, in particular the Croatian National Bank, the Central Bureau of Statistics and the Ministry of Finance. Thanks to the development of information and communication technologies all this information has in recent years become available through the Internet as well. Nevertheless, it should be pointed out that the lack of certain indicators which might be relevant for examining the present economic issue requires further investments into improvements of both methodology and data collection system.

The next step in formulating the model is preparing the data for analysis. In this phase it is crucial to align chronologically the values of all the variables included in the model, and, where necessary, to make the calculations required to obtain data which are suitable for analysis. This kind of data organization has been significantly improved and accelerated through appropriate software applications.

Statistical analysis of data in this paper includes correlation analysis and multiple regression analysis. Possibilities of the software package *STATISTICA 6.0* in the assessment and testing of significance of unknown parameters will be emphasized below.

The obtained research results need to be presented in an appropriate form, and then be used to conclude whether the model has a usage value. If the model turns out to be inadequate in any way, it has to be modified. On the other hand, an appropriate model can become the basis for permanent examination of the factors which determine household savings in the Republic of Croatia.

The facts stated above lead us to the conclusion that computer analysis of data is an essential element in the process of constructing and implementing the proposed model. Without computer analysis it would be impossible to ensure permanent monitoring and evaluation of macroeconomic variables assumed to have an impact on household savings.

4. RESULTS OF THE ANALYSIS

The first step in the model construction is to identify all the relevant variables assumed to have an impact on time and savings deposits of households, which is the dependent variable (DV). In this paper we have analyzed the position of time and savings deposits,

expressed in millions of kuna, at the end of every month under observation.

On the basis of the available data, this research has identified 5 independent variables:

- geometric mean of weighted averages of monthly banks' interest rates on kuna and foreign currency household deposits, in percentage on annual basis (*IV1*);
- average monthly net wages in current prices, in kuna (*IV2*);
- month-on-month rate of change of retail price indices, i.e. consumer price indices, in percentage (*IV3*);
- midpoint exchange rates HRK/EUR of the Croatian National Bank - monthly average (*IV4*);
- primary liquidity ratio, in percentage (*IV5*).

In determining the geometric mean of weighted averages of monthly interest rates, their relative significances determined for the last report period were used as ponders. Because of the lack of adequate data, the relative significance determined for one period was projected on interest rate values for all the months included in the research.

It should be noted that in the analysis for the period until December 1997 we used the data referring to retail price indices, whereas afterwards consumer price indices were used.

The variable which denotes the primary liquidity ratio of banks was included in the model because it was necessary to assess the banking system security. By introducing this variable we tried to establish whether bank liquidity influences the level of savings. Primary liquidity ratio presenting percentage of monthly day-to-day kuna free reserves averages in monthly day-to-day averages of deposits which constitute the reserve base.

The analysis covers a time series with 135 values of each variable included in the model (data for the period from July 1995 until September 2006). Due to limited space, Table 2 contains only some of the variable values.

Table 2: Selected data referring to the dependent variable and independent variables

MONTH/ YEAR	DV	IV1	IV2	IV3	IV4	IV5
07/1995.	10080.03	4.96	1798.0	0	6.7138	0.38
12/1995.	12741.04	4.59	1883.0	0.2	6.8122	0.63
12/1996.	20472.68	2.27	2217.0	0	6.8636	2.63
12/1997.	30543.74	2.91	2544.0	0.7	6.9472	2.92
12/1998.	37087.26	3.23	2935.0	0.3	7.3291	1.65
12/1999.	35913.26	2.75	3262.0	0.6	7.6791	1.30
12/2000.	44276.81	1.62	3499.0	0.4	7.5983	3.32
12/2001.	67660.04	1.24	3582.0	0.4	7.3700	3.23
12/2002.	67486.59	0.96	3839.0	0.4	7.4423	3.53
12/2003.	72978.58	0.69	4045.0	0.3	7.6469	0.98
12/2004.	79856.74	0.69	4312.0	0.7	7.6712	2.64
12/2005.	88612.85	0.57	4473.0	0.5	7.3756	0.96
09/2006.	97113.52	0.53	4542.0	0	7.3818	0.32

Sources: "Time and Savings Deposits with Banks", <http://www.hnb.hr>;
 "Foreign Currency Deposits with Banks", <http://www.hnb.hr>;
 "Banks' Interest Rates on Kuna Deposits Indexed to Foreign
 Currency and on Foreign Currency Deposits", <http://www.hnb.hr>;
 "Average Monthly Net Wages", <http://www.hnb.hr>;
 "Prosječne mjesečne isplaćene neto plaće zaposlenih za rujan 2006.", <http://dzs.hr>;
 "Consumer Price and Producer Price Indices", <http://www.hnb.hr>;
 "Midpoint Exchange Rates of the Croatian National
 Bank (period average)", <http://www.hnb.hr>;
 "Banks' Liquidity Indicators", <http://www.hnb.hr>.

To establish the direction and strength of the relations obtaining between the analyzed variables, we first determined the Pearson correlation coefficients. In addition to their values, Table 3 contains the associated p-levels obtained through testing the hypothesis on significance of the calculated correlation coefficients.

Table 3 :Correlation coefficients between analyzed variables with related p-levels obtained when testing their significance (marked correlations are significant at $p < 0.05$)

	DV	IV1	IV2	IV3	IV4	IV5
DV	1.000	-0.915	0.972	-0.147	0.561	-0.093
		p=0.000	p=0.000	p=0.089	p=0.000	p=0.283
IV1	-0.915	1.000	-0.917	0.158	-0.579	-0.103
	p=0.000		p=0.000	p=0.068	0.000	p=0.236
IV2	0.972	-0.917	1.000	-0.152	0.687	-0.093
	p=0.000	p=0.000		p=0.079	p=0.000	p=0.286
IV3	-0.147	0.158	-0.152	1.000	-0.025	-0.033
	p=0.089	p=0.068	p=0.079		p=0.770	p=0.704
IV4	0.561	-0.579	0.687	-0.025	1.000	-0.079
	p=0.000	p=0.000	0.000	p=0.770		p=0.364
IV5	-0.093	-0.103	-0.093	-0.033	-0.079	1.000
	p=0.283	p=0.236	p=0.286	p=0.704	p=0.364	

The obtained results lead to the conclusion that there is a very strong negative relation between the dependent variable and average interest rates on time and savings deposits of households (IV1). Even with the reduction of interest rates, time and savings deposits of households have been increasing in the observed period. These trends can be partly explained by the absence of a developed capital market where asset surpluses could be invested, but also by the fact that Croatian citizens still prefer traditional investment routes. There is a strong positive relation between time and savings deposits on the one hand, and average monthly net wages (IV2) on the other, which was to be expected. According to the calculated correlation coefficient, there is a moderate positive relation between dependent variable and monthly average HRK/EUR exchange rates (IV4). It follows that the strengthening of Euro stimulates the growth of time and savings deposits of households.

A strong negative relation was observed between average interest rates on time and savings deposits of households (IV1) and average monthly net wages (IV2). A statistically significant negative relation of moderate strength was found between independent variables IV1 and IV4. The only other instance of statistically significant positive relation of moderate strength was confirmed between independent variables IV2 and IV4.

The above results are presented in the software package STATISTICA 6.0 in the format shown in Figure 2.

Figure 2: Presentation of the correlation analysis results in the software package STATISTICA 6.0

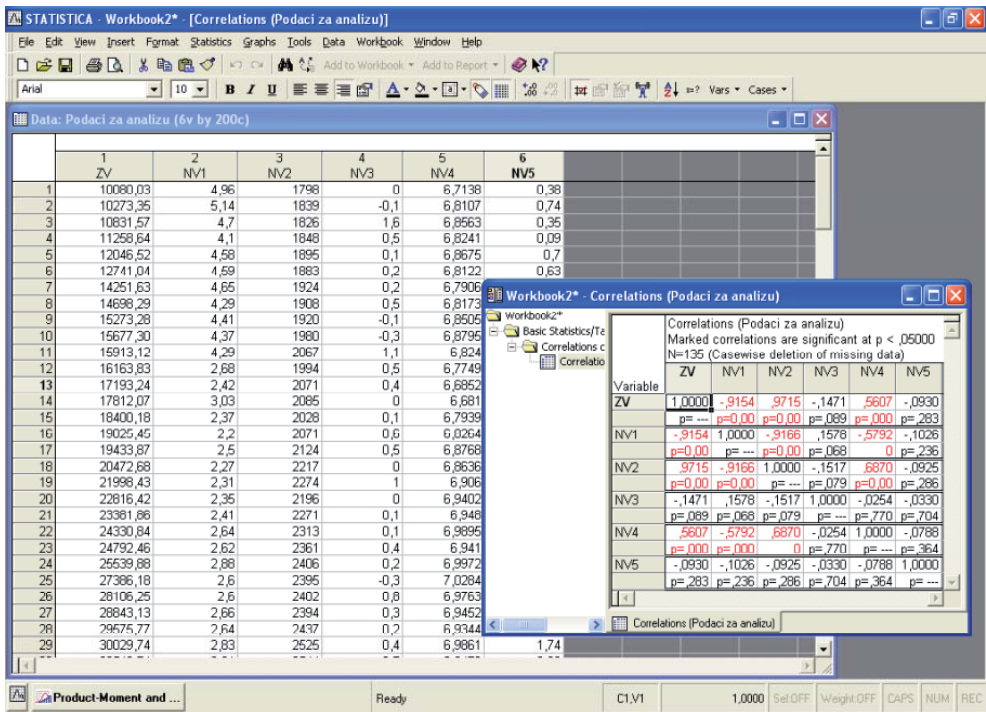


Table 4: Basic results of multiple linear regression analysis of dependent variable presenting times and savings deposits of households in the Republic of Croatia depending on five identified independent variables

MULTIPLE CORRELATION COEFFICIENT (R)	MULTIPLE COEFFICIENT OF DETERMINATION (R ²)	ADJUSTED MULTIPLE COEFFICIENT OF DETERMINATION (\bar{R}^2)	STANDARD ERROR OF ESTIMATE
0.984	0.968	0.967	4472.0

The basic results of multiple regression analysis (coefficient of multiple correlation, coefficient of multiple determination, adjusted coefficient of multiple determination and standard error of estimate) are given in Table 4.

Table 5: The multiple regression summary for response variable presenting times and savings deposits of households in the Republic of Croatia depending on five identified predictor variables (regression coefficients of marked variables are significant at $p < 0.05$)

CONSTANT AND VARIABLE	β	SEE (β)	B	SEE (B)	t-value	p-level
CONSTANT			79310.822	12683.258	6.253	0.000
IV1	-0.132	0.046	-2675.659	920.904	-2.905	0.004
IV2	0.983	0.050	28.802	1.478	19.481	0.000
IV3	0.017	0.016	861.450	817.744	1.053	0.294
IV4	-0.193	0.022	-16178.669	1864.371	-8.678	0.000
IV5	-0.030	0.018	-575.089	341.553	-1.684	0.095

The coefficient of multiple correlation shows that there is a very strong correlation between the observed response variable and five predictor variables. According to the coefficient of multiple determination, the applied model of multiple linear regression managed to interpret 96.8% of total variations. Only slightly different is the value of adjusted coefficient of multiple determination. Both results indicate that the model used here is highly representative and confirm the hypothesis that there is a linear relation between the analyzed variables.

Table 5 shows the multiple regression summary for dependent variable (standardized coefficients of regression β , their standard errors of estimate (SEE), non-standardized coefficients of regression B , their standard errors of estimate (SEE) and t-values with related p-levels obtained when testing their significance).

The constant in the determined regression equation has the value 79310.822 million kuna. It shows how high the predicted value of the dependent variable would be if all the independent variables were 0. This parameter has no practical significance in this model.

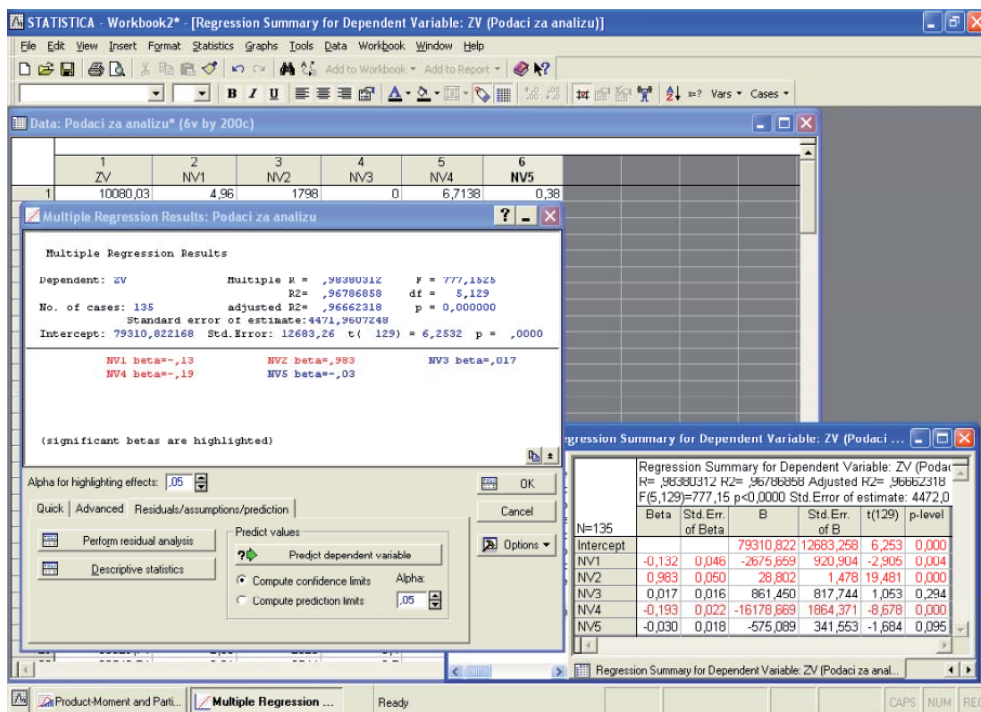
On the basis of the calculated regression coefficient B standing next to the independent variable IV1 it can be concluded that during the analyzed period, under the condition that other independent variables remain unchanged, the increase of weighted average of monthly interest rates (expressed annually) by 1% resulted in the average decrease of time and savings deposits of households by 2675.659 million kuna. Under the same condition, the increase of average net monthly wages (IV2) by 1 kuna increased time and savings deposits on average by 28.802 million kuna. The increase of monthly average midpoint exchange rates HRK/EUR by 1 kuna, under the condition that other independent variables remain unchanged, resulted in the average decrease of total time and savings deposits by 16178.669 million kuna in the analyzed period. It follows from the above that the results of multiple regression analysis deviate from the results obtained for this variable in correlation analysis.

The calculated t-values and p-levels lead us to the conclusion that independent variables representing month-on-month rate of change of retail price indices, i.e. consumer price indices (IV3) and banks' primary liquidity ratios (IV5) are not statistically significant for explaining the dependent variable variations. They can therefore be taken as superfluous in the model. If we those two variables, we get a reduced form of the model expressed by the following regression equation:

$$DV = 79310.822 - 2675.659IV1 + 28.802IV2 - 16178.669IV4.$$

To facilitate comparison and comprehend the relative importance of regression coefficients included in the model, the standardized coefficients of regression β are presented in a standardized form. According to the standardized coefficients of regression, the variable representing average monthly net wages (IV2) is the most important predictor of total time and savings deposits of households in the Republic of Croatia. It is followed by the variables defined as monthly average midpoint exchange rates HRK/EUR (IV4), and weighted averages of monthly interest rates on time and savings household deposits in kuna and foreign currency (IV1).

The next figure illustrates how multiple regression analysis is carried out in the software package *STATISTICA 6.0*.



The statistical software package *STATISTICA 6.0* offers a wide range of possibilities for exploring the relations between variables in the framework of multiple regression analysis, but they cannot be presented in this paper owing to its limited scope. Within its multiple regression analysis module the software package *STATISTICA 6.0* provides the option of determining the table Analysis of Variance, descriptive statistics, partial and semi-partial correlation coefficients, covariances of regression coefficients and indicators of redundancy of independent variables. There are especially numerous possibilities of analyzing the relations of predicted and observed values, and of residuals. Within this option there is a choice of different graphic presentations. In addition to some other features, their numerousness and flexibility are what made the software package *STATISTICA* very popular with users.

5. CONCLUSION

Conducting serious statistical research in today's circumstances is virtually unthinkable without computers and adequate software. Computer data analysis has thus become a basic prerequisite for constructing different economic models. The model for establishing the factors which determine household savings in the Republic of Croatia, as described in this paper, is also founded on computer data analysis. It is prominent not only within statistical analysis, but also in the phases of data collection, preparing the data for analysis, and presenting the research results.

To illustrate particular aspects of implementing computer analysis in model development we have used in this paper the statistical programme package *STATISTICA 6.0*. This software application is an integral system for statistical and graphic data analysis. It allows for numerous manipulations of the entered data, and moreover, it supports the conversion of other standard formats (Microsoft Excel, dBASE, SPSS Portable, Lotus/Quattro, Text, HTML and Rich Text Files).

The proposed model, whose usage value was confirmed by the analysis of real data, makes it possible to determine the major factors of household savings in the Republic of Croatia. Regression analysis has shown that in the period between July 1995 and September 2006 total times and saving deposits of households were influenced most significantly by the changes in net wages, monthly average midpoint exchange rates HRK/EUR, and weighted averages of monthly interest rates on time and savings household deposits. In contrast, month-on-month rate of change of retail price indices, i.e. consumer price indices and banks' primary liquidity ratios were not shown to be statistically significant predictors of the dependent variable.

The model presented in this paper is a basis for identification and systematic monitoring of factors which determine household savings in the Republic of Croatia. If the model is proved inadequate by future research, it will have to be modified. In this respect it

is necessary to ensure a proper information basis on which such modifications can be founded.

REFERENCES

- Blanchard, O.: Makroekonomija, Treće izdanje, prijevod, Mate, d.o.o., Zagreb, 2005.
- Haag, S., Cummings, M., McCubbrey, D.J.: Management Information Systems for the Information Age, Third Edition, McGraw-Hill/Irwin, Boston, 2002.
- Mankiw, N.G.: Macroeconomics, Fifth Edition, Worth Publishers, New York, 2003.
- Spiegel, M.R., Stephens, L.R.: Statistics, Third Edition, McGraw-Hill, New York, 1999.
- Van Horne, J.C.: Financijsko upravljanje i politika (Financijski menedžment), Deveto izdanje, prijevod, Mate d.o.o., Zagreb, 1993.
- "Average Monthly Net Wages", <http://www.hnb.hr>
- "Banks' Interest Rates on Kuna Deposits Indexed to Foreign Currency and on Foreign Currency Deposits", <http://www.hnb.hr>
- "Banks' Liquidity Indicators", <http://www.hnb.hr>
- "Consumer Price and Producer Price Indices", <http://www.hnb.hr>
- "CNB Bulletin - Notes of Metodology", <http://www.hnb.hr>
- "Foreign Currency Deposits with Banks", <http://www.hnb.hr>
- "Midpoint Exchange Rates of the Croatian National Bank (period average)", <http://www.hnb.hr>
- "Prosječne mjesečne isplaćene neto plaće zaposlenih za rujan 2006.", <http://dzs.hr>
- "Time and Savings Deposits with Banks", <http://www.hnb.hr>

STRATEGIC MANAGEMENT OF THE TOURIST DESTINATION ISTRIA

Jeremić Zoran, Mešić Almir,
Postgraduate studies Management, Osijek

1. INTRODUCTION

The subject of this paper refers to strategic management in the development of a tourist destination with special reference to Istria.

Tourism is an extremely dynamical world process as well as one of the biggest industries in the world with rapid growth and development. Tourist destination represents the response to contemporary tendencies and movements on the world tourist market. For this reason, in the first chapter of our paper, we deal with conceptual definitions of tourism and tourist destination and their role in the globalization process and regional development.

In the second chapter we agree with professional bibliography when referring to the explanation of the notion of strategic management.

The third chapter connects tourism, tourist destination and strategic management in order to see this problem in the light of strategic management of a tourist destination and its task to ensure the future of the tourist destination in question as well as its competitiveness on the world tourist market.

In the last chapter we deal with the subject of strategic management in managing the tourist destination Istria. We have reviewed the situation in this destination and its surrounding, its determined perspective and possible future ways of development with reference on the development strategy search and strategic concept of the tourist destination Istria.

2. TOURISM AND TOURIST DESTINATION

2.1. Tourism in General

Tourism is one of the most dynamical and most progressive of world's social processes. "Tourism as a social phenomenon and a special social relationship, simply and at the same time as completely as possible, can be defined as a set of relationships

and phenomena which are a result of travels and sojourns of visitors of a particular place especially if this sojourns result in a permanent place of living and if with them no business activity is connected.”¹

Tourism represents a complex social system with numerous implications on the general social development in certain national and international conditions and frames. “... tourism can be seen as a specially conditioned migration phenomenon, in a determined place and between people, which on both sides and between them causes numerous different consequences (positive or negative).”²

Tourism is an economic category which is manifested through economic relationships in tourism. These relationships are formed in order to satisfy tourist needs defined by social development and relationships. However, tourism is also a phenomenon and a set of relationships on a wide field of human needs aggregated in the tourist demand. Millions of people are involved in the tourist phenomenon and it has become an important part of contemporary life. That is why it is important to view its role in the globalization process.

2.2. Tourism in the Globalization Process

Tourism is one of the leading world industries growing continually and as such has a big role in the globalization processes. Due to its characteristics and influence on contemporary communication media tourism incites globalization. “Tourism shows its strength of influence on the globalization process in the rapid exchange of economic and cultural influence between tourists and local communities.”³

The process of globalization in tourism implies positive and negative effects. Concentration and centralization of capital has been happening in tourism as well. On the side of the tourist offer exist big managing, technological and business systems in forms of grand hotel (Hilton, Marriot etc.) and restaurant chains (McDonalds) and, of course, travel agencies (TUI) which have been developing.

The notion of quality in these big and global systems is identified with tourist offer content standardization where national, regional and local character has been losing itself. As addition to this process, tourist regionalization appears.

¹ Dulčić, A. : Upravljanje razvojem turizma, Mate, Zagreb, 2001., page 38.

² Vukonić, B. : Turizam i razvoj: pojam, načela, postupci, Mikrorad, Zagreb, 2001., page 17.

³ Magaš, D. : Management turističke organizacije i destinacije, Adamić, Rijeka, 2003., page 7.

2.3. Tourism, Regional Development and Tourist Regionalization

Region can be defined as a part of a determined spatial whole with spatial, developing, cultural, historical and other special features. Tourist region refers to a place which stands out considering available tourist resources and considering the reached level of development. Tourist region is used for the realization of the process of regional differentiation of the tourist product. The main task of a tourist region is long term insurance and decoration of the places for recreation and relaxation.

There is no doubt that tourism has a great role in regional development. First, this refers to economic effects through realized income and foreign – exchange earnings of tourism, direct and indirect investments, employment in tourism and other multiplicative effects. By managing regional development special attention has to be dedicated to the environment by taking some measures, because tourism development can have negative influence on the environment. Further, tourism development in a certain region has a great influence on the socio-cultural and socio-democratic surroundings of the tourist region in question.

2.4. Tourist Destination

Tourist destination represents a market valorised whole whose the main purpose is to ensure the destination's competitiveness on the tourist market by a suitable service quality for the guests. " In whole, for a tourist destination one can say: that it makes the spatial whole of the tourist offer, that it has to handle elements of the sale, that is market oriented, tourist oriented, that is independent of administrative restrictions, that a destination has to be managed."⁴

The basic elements of positioning a tourist destination on a tourist market are availability, attractiveness and organization. The development of a tourist destination goes through specific evolution phases tightly connected to development phases of tourism on a specific area: the research phase is the primary phase characterized by a small number of visitors and poverty of the offer of the tourist destination; in the engaging phase initiatives to enlarge the offer and ensure the infrastructure to take a bigger number of tourists appear; the development phase is characterized by a bigger number of tourists and by the necessity of planning the tourist development; the consolidation phase is characterized by a somewhat smaller number of tourists, while in the stagnation phase numerous economic, social and ecological problems arise. In the deterioration phase guests will not be coming back and the destination depends on excursion groups. The rejuvenation phase includes new contents and new quality in the destination's tourist product.

⁴ Magaš, D. : Ibid, page 25.

2.4.1. Tourist Destination Management

Tourist destination management has to indulge all the principles and requests as does the management of any other profit organization. There is an important difference in case that often does not exist a clear responsibility for development and competitiveness of a tourist destination.

Tourist destination management appears in the double role as a management responsible for its own system as well as a management responsible for the development of a whole destination. This double function can bring to various conflicts which is then the basic reason for the tourist destination management to manage it as a non profit organization. The main goals of the management are the result of existing of the tourist destination itself. That is long term insurance of the competitive capacity of the tourist destination on the world tourist market.

3. STRATEGIC MANAGEMENT

“Strategic management is a continuing, iterative process headed towards maintaining the organization as a whole formed according its surrounding.”⁵

There are a few main characteristics of strategic management.

First, strategic management is a lasting process no matter that some of its activities are more and some less developed. The manager’s obligation is always to be headed on some of the aspects of strategic management.

Secondly, the manager’s engagement in the strategic management process is seen in a series of stages beginning with environment analysis continuing on the setting of organizational orientation, formulation and implementation of strategy to the control and evaluation of the existing strategy.

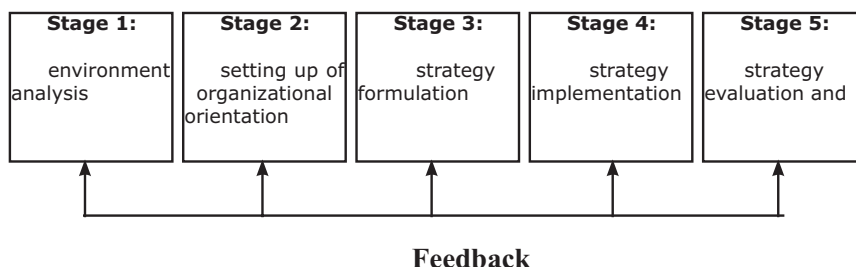
Third, in the process of strategic management managers bring many decisions and take over many actions in order to carry out goals expressed by certain performances.

Fourth, in order for strategic management to operate effectually as an instrument of realization of goals it has to ensure organization so that it can respond adequately to demands of a changing environment.

⁵ Certo, S. C., Peter, J. P., op. Cit. page 5. (taken from group of authors, red. Buble, M., *Strateški menadžment*, Sinergija nakladništvo, Zagreb, 2005., page 5.)

Fifth, the strategic management process is iterative – it begins with stage one and ends with the last stage and begins again with stage one. Accordingly, strategic management consists of a series of stages repeating cyclically.

Picture 1: Stages in the strategic management process



Source: Grupa autora (red. Buble, M.) : Strateški menadžment, Sinergija nakladništvo, Zagreb, 2005., page 8

Environment analysis – this analysis is usually known as environment scanning. Its purpose is to identify strategic factors, external and internal elements which are to determine the future of a destination. The easiest way for its performance is the so called SWOT analysis which is supposed to identify contemporary and future opportunities and threats, weaknesses and strengths of a destination in its market competition. There is a difference between external and internal environment. Opportunities and threats are viewed from the aspect of external environment and strengths and weaknesses from the aspect of internal environment.

Setting up of organizational orientation – it is also known as the determination of the directions of a destination. There are three major directions of a destination: vision, mission and destination aims. Vision stands for the image, i.e. the idea of a future state of being or an event. In the context of management it stands for the image of a future state of being, a mental image of a possible and preferable future which is realistic, true and appealing. It is an image of an ideal future, i.e. a wanted result. Mission is the purpose or reason for which a destination exists. It stands for what the destination ensures the society of – either services or products. Goals are the final results of planned activities – they show us what is the destination supposed to do, to which extent and when. That is why goals should be quantified whenever possible because only goals expressed like that can be measured realistically during their realization. By carrying out the goals we carry out the mission.

Strategy formulation – it is a process of long-term plan development in order to effectively manage the opportunities and threats from the environment according to the strengths and weaknesses of a destination. It involves the development of suitable strategies and the setting up of some guidelines of the policies in order to carry out the chosen strategy. The destination strategy forms an expanding master plan which enables the destination to carry out its vision, mission and goals. The policy specifies points of view, principles and criteria which will guide choices and actions of the destination.

Strategy implementation – it is a process which enables strategies and policies to be put in action through programme development, budget, procedures and rules. Without effective implementation strategy it is not possible to benefit from the situational analysis of the organizational direction and the formed strategy.

Control and strategy evaluation – make a special sort of organizational control which deals with monitoring and strategic management process evaluation. Its purpose is to ensure its complete functionality and further advancement. It can be accomplished by monitoring actual performances and their comparison to established standards in order to determine possible deviations and their causes and carry out measures to eliminate the deviations. That is why managers on all levels, according to information which result from the control and evaluation process, carry out collective actions and deal with problems which have been developing.

Feedback – it is an informational input for every previous stage in the strategic management process which indicates whether or not activities of the following stage have been going on according to plan. Information received in this way serves to the management to evaluate the process and carry out corrective actions.

4. STRATEGIC MANAGEMENT IN TOURISM

Despite of the unsafety in certain parts of the world, it is predicted that the world economic and social climate will result in a big growth in tourism in the next 20 years. The changing economic conditions, the changed consumer behaviour and new technologies will cause the appearance of new markets. The content of the tourist population will change. There will be more old people. Individual/independent vacations will be emphasized as well as educational vacation and active recreation. On one side, a growing conscience of the environment will influence the policy of planning and the tourist demand. On the other side, nature which represents the main tourist resource will be disappearing more and more and will become more sensitive. An ecological, long-term approach in tourism planning is going to be demanded.

The trends that led us to the new millennium have deep implication for all society sectors. The corporation, state and educational sector have to deal those macro trends and respond to them because, no matter what our individual interests are, those factors will influence people's behaviour. The successful subjects will study every trend and develop an action plan in order to satisfy new demands, ways of thinking as well as the needs of the global market. The speed of change itself will demand a lasting evaluation in order to keep harmony with the changing market. Our political, educational and business community will have to begin thinking differently and to start reacting tactically or to face the market changing in a speed they can follow. These challenges will be the greatest in the service sector where "change" will be constant.

The whole process of strategic planning in tourism comes down to planning on the basis of uncertainty. Uncertainty is an addition to knowledge: gap between what we know and what we should know to bring the right decisions. A smart handling of uncertainty is not the back road on the way to responsible decisions in tourism management, rather it is crucial for those decisions. In order to be able to handle the planning, direction and research in tourism in the future, tourist experts will have to be like the people were in the Renaissance. The need to imagine, perceive and evaluate the future is the most important characteristic of the tourist experts of the future. The tourist phenomena of the future will be directed by today's experts who look at the future and shape it in a strategic vision.

4.1. Strategic Management of a Tourist Destination

"The aim of the strategic management is to ensure the future of a tourist destination – structuring, keeping and usage of success which represents a long-term resource insurance to be used economically."⁶

Strategic management systematically fulfils the strategic tasks referring to product quality and destination service, tourist markets and destination resources we have on disposal to carry out the aims of a destination.

A regular strategic management of a tourist destination is responsible for reaching balance between all the carriers of the tourist offer in a destination, local organizations and societies as well as visitors. That is not very easy considering the double role of tourist destination management. It is a continual process whose aim is to improve the offer quality of a tourist destination, to enhance the guests' satisfaction, to reach an agreement between partial interests of the carriers of the tourist offer and to influence on the standard of the local population.

There are different models in the search of the tourist destination development strategy, depending upon characteristics and resources as well as on the goals of the strategic

⁶ Magaš, D. : Ibid, page 179.

management of a tourist destination.

5. STRATEGIC MANAGEMENT IN ISTRIA

5.1. Environment Analysis

The aim of the analysis is the insight in the strengths and weaknesses, opportunities and threats of the tourist destination Istria where elements like environment position and protection, special features of the natural and cultural landscape, natural and social attractions, traffic connections, architecture, hotel business, gastronomy, sport and recreational facilities, cultural and other manifestations are being evaluated. The results of the research are later being used as the basis for strategy development in order to use up all the chances, that is, remove and soften all the weak sides which disturb further destination development.

5.1.1. Analysis of Strengths and Weaknesses, Opportunities and Threats in the Development of the Tourist Destination

Strengths

- ecologically healthy nature and sea
- not overbuilt space
- human potential
- quality food
- historic and cultural heritage
- closeness of markets
- short distances between the continent and the coast
- autochthonous way of living preserved
- average accommodation capacities: hotels, camp sites, apartments...
- geographical position
- pleasant climate
- long-term tourist tradition
- favourable safety situation

Opportunities

- tourist season prolongation
- existing product improvement
- new product development
- extensive activities on existing markets
- breakthrough on new tourist markets

Weaknesses

- infrastructure
- relation between price and value
- entertainment offer
- accommodation quality
- deficiency of professionals
- attraction and feeling
- quality entertainment
- quality infrastructure
- shopping offer
- quality product – excursions
- higher category accommodation
- diversified price, category and eno- and gastro- service

Threats

- overbuilt
- uncontrolled development
- losing control over resources
- losing local identity
- surrounding pollution
- political situation in the world
- recession in developing countries
- competition
- change in consumer taste

5.2. Placement of Organizational Orientation

According to this analysis of strengths and weaknesses and of opportunities and threats in the development of the tourist destination Istria, three major directions have been determined: vision, mission and organization goals.

The vision of the future development of the tourist destination Istria stands for an image, i.e. an idea of a future state of being. That is that Istria should become the leading tourist destination implementing the European standards of service and products.

The strategic management mission in Istria should emphasize the quality and action of carrying out the set goals.

The strategic management goals of the tourist destination Istria development are the following: to preserve a clean and healthy environment, the present tourist product based solely on the sea and sun has to be replaced by a new one for selected guests, the prolongation of the tourist season to a minimum of nine months, to carry out new employment in tourism, to carry out quality tourism based on 3 and 4 stars, enable a more quality life for the local population, to keep the local identity and culture, to develop a better accommodation capacity fulfilment and higher prices etc.

5.3. Strategy Formulation

Strategy formulation of the tourism in Istria can be seen in the tourism development master plan in the Istrian county and it involves the development of adequate strategies and setting of policy guidelines in order to carry out the chosen strategy, that is, vision, mission and goals.

With its master plan Istria is divided in seven clusters, seven sub area or micro destinations as a part of one tourist region having similar tourist characteristics.

The master plan is formed out of a few elements, the first of which is the tourism development model which determines goals, strategies, limitations and tourism development speed according to every cluster's potential. The second part is the competition plan which determines the way in which a certain destination competes with other similar destinations. The investment plan offers a precise private and public sector investment plan, while the marketing plan has built a special marketing plan according to sectors; tourist sectors, i.e. service groups a certain destination decided to use as dominant.

5.4. Strategy Implementation

By implementing a strategy we define all the things that specific subjects in Istria

need to undertake in a specific time period and with certain dynamics. The essence of the implementation process is the so called strategic change. The old strategy is being replaced by a new one which should transform Istria in the most successful destination of all. In order for this plan and programme to function it is necessary to involve in its realization not only big subjects by also smaller tourist service attendants and others who in any other way take part in the creation of the tourist offer and services.

5.5. Strategy Control and Evaluation

The purpose of strategic control is to help management to realize given aims with the help of surveillance and strategic management process evaluation. The results of the strategic management process can be seen in the evaluation of the destination's surrounding, in establishing the vision, mission and goals and in turning strategy in action. Strategic control establishes whether or not all stages of strategic management have been carried out appropriately and what is their function.

5.6. Feedback

By producing a chosen strategy the management encounters various unplanned situations which make them revise or correct previously made decisions. For example, low rate return in investment can indicate that something went wrong in previous stages of the strategic management. This notion is the basis for taking over suitable measures. Neglecting feedback could have major consequences for the destination.

6. CONCLUSION

Even in the future, as it does now, tourism is going to represent one of the biggest and strongest world industries with the tendency to grow and develop further.

In this context, tourist destinations will be developing as tourist offer carriers and subjects and will be playing an important role in the further tourism growth and development in many regions.

On the other hand, tourist destination strategic management will represent the deciding factor in the insurance of the tourist destination's future on the tourist market, its competitiveness and ability to respond to all bigger tourist demands. The strategic management of the tourist destination Istria is responsible for further development and defining the destination on the world market. The SWOT analysis in this paper shows many problems, weaknesses and threats in the tourist development of Istria. However, on the other hand, there are numerous advantages which have to be exploited in order for Istria to remain our leading tourist destination.

The tourist destination development master plan has put high standards. However, in the master plan realization in practise many factors influenced its stopping. The most important of which is the solving of the question of responsibility in further handling and managing a destination.

Inevitable is the strategic planned approach in the tourism development in Istria, on all levels in order to carry out set tasks. One must consider all the economic, socio cultural and other issues. Especially those connected with environment protection not to cause uncontrolled development.

Tourist destination management has to shape a system of organization which can satisfy all or most interests of all the interest groups and subjects connected to the tourism development in Istria. A special issue is tourism personnel because all analyses have shown that little has been done in this area.

Despite numerous problems, traps and threats, Istria and all its potential have the chance for further development, growth and definition on the demanding world tourist market.

LITERATURE:

1. Dulčić, A.; Upravljanje razvojem turizma, Mate, Zagreb, 2001.
2. Grupa autora, red. Buble, M.; Strateški menadžment, Sinergija nakladništvo, Zagreb, 2005.
3. Magaš, D.; Management turističke organizacije i destinacije, Adamić, Rijeka, 2003.
4. Moutinho, L.; Strateški menadžment u turizmu, Masmedia, Zagreb, 2005.
5. www.istra-istria.hr/ masterplan

FINANCE

INNENFINANZIERUNG EINES INDUSTRIEUNTERNEHMENS - ERFASSUNG UND BEURTEILUNG DER INNENFINAN- ZIERUNGSARTEN –

Dr. Bodo Runzheimer
Hochschule Pforzheim

Die Finanzierung eines Unternehmens gliedert sich nach den Quellen der Mittelbeschaffung in Innen- und Außenfinanzierung. Innenfinanzierung (interne Finanzierung) erfolgt durch Umsatz – und nur durch Umsatz -; Außenfinanzierung durch Inanspruchnahme von Kapitalgebern (Eigner: Eigenkapital oder Gläubiger: Fremdkapital).

A. Arten der Innenfinanzierung sind:

1. Gewinnfinanzierung (Selbstfinanzierung)
2. Abschreibungsfinanzierung (Freisetzungsfinanzierung)
3. Rückstellungsfinanzierung (Finanzierung durch eigene gebildetes Fremdkapital)
4. Finanzierung durch sonstige Vermögensumschichtungen (sonstige Freisetzungen)

1 GEWINNFINANZIERUNG (SELBSTFINANZIERUNG)

Gewinnfinanzierung (Selbstfinanzierung) bedeutet **Thesaurierung** von **erzielten Gewinnen**, d.h. Gewinne, die das Unternehmen erwirtschaftet hat (selbst erwirtschaftete Mittel), werden im Unternehmen belassen (Jahresüberschüsse werden vom Unternehmen einbehalten, also nicht ausgeschüttet). Andere Bezeichnungen sind: Finanzierung aus zurückbehaltenen Gewinnen oder Überschussfinanzierung. Die Gewinnfinanzierung (Selbstfinanzierung) bildet **zusätzliches Kapital**¹, führt zu einer „Verlängerung der Bilanz“, d. h. die Bilanzsumme erhöht sich.

Formen der Selbstfinanzierung (Formen der Gewinnfinanzierung)

¹ „**Kapital**“ als abstrakter Ausdruck des im wirtschaftlichen Eigentum eines Unternehmens befindlichen Vermögens, d.h. das gleiche „Wertgesamt“ wird **doppelt** dargestellt, einmal das Vermögen als Aktiva und **wertgleich** das Kapital als Passiva in der Bilanz (dies ist die konsequente Folge der „**doppelten Buchhaltung**“, die schon *Johann Wolfgang Goethe* in „*Wilhelm Meisters Lehrjahre*“ wie folgt qualifiziert hat: „*Welche Vorteile gewährt die doppelte Buchhaltung dem Kaufmanne. Es ist eine der schönsten Erfindungen des menschlichen Geistes, und jeder gute Haushalter sollte sie in seiner Wirtschaft einführen*“).

Das Kapital drückt die „Verfügbarmacht eines Unternehmens über Kaufkraft auf Zeit“ aus; es offenbart die rechtlichen Ansprüche (Machtbeziehungen) der Kapitalgeber (Eigner und Gläubiger) an ein Unternehmen und gibt gleichzeitig Auskunft über die Quellen des Kapitals.

Nach der Art des Ausweises der zurückbehaltenen Gewinne wird unterschieden in

Offene Gewinnfinanzierung (im Jahresabschluss nachgewiesene – „gezeigte“ – Gewinne werden offen – also im Jahresabschluss dargestellt – einbehalten; bilanziell erkennbar)

und

Verdeckte Gewinnfinanzierung (Gewinne, die zwar erwirtschaftet aber im Jahresabschluss nicht als solche ausgewiesen – „gezeigt“ – sind, werden einbehalten: **Bildung stiller Rücklagen**)

1.1 Offene Selbstfinanzierung (Gewinnfinanzierung)

Die **offene Gewinnfinanzierung** erfolgt mithin aus versteuerten Gewinnen (Eigenkapitalbildung „nach Steuern“). Bei Kapitalgesellschaften erfolgt die offene Gewinnfinanzierung durch Einstellung der einbehaltenen Gewinne in die offenen Rücklagen („**Gewinnrücklagen**“ gemäß §§ 266 und 272 HGB) oder durch Bildung eines Gewinnvortrags bzw. Verminderung eines Verlustvortrags aus vorangegangenen Abrechnungsperioden. Bei Einzelunternehmen und Personengesellschaften erfolgt die offene Gewinnfinanzierung durch Gutschrift auf dem Kapitalkonto des Inhabers bzw. auf den Kapitalkonten der Gesellschafter bei entsprechendem Verzicht auf Gewinnentnahme. Die **offene Gewinnfinanzierung** führt mithin zu dem **qualitativ besten Kapital** eines Unternehmens; das **Eigenkapital** ist wegen der unbefristeten Verfügungsmacht darüber das denkbar wertvollste Kapital eines Unternehmens. Damit ist die **Bedeutung der offenen Gewinnfinanzierung** für ein Unternehmen klar ersichtlich; zu beachten ist jedoch, dass erwirtschaftete Gewinne, Gewinnbesteuerung und Verzicht der Eigner auf Gewinnausschüttung Voraussetzungen sind.

2.2 Verdeckte Selbstfinanzierung (Gewinnfinanzierung)

Die **verdeckte Gewinnfinanzierung** dagegen erfolgt durch Thesaurierung nicht ausgewiesener (nicht „gezeigter“) erwirtschafteter Gewinne. Es entstehen **stille Rücklagen (stille Reserven)**, die – der Name verrät es - als solche nicht in der Bilanz nachgewiesen werden. Der Gewinnausweis kann wie folgt reduziert werden:²

² Ähnlich bei *Däumler*; K.-D.: Betriebliche Finanzwirtschaft, 8.A., Herne/Berlin 2002, S. 407

a) Unterbewertung von Aktiva

z.B. durch

Aktivierungsverbote (§§ 248, 255 HGB; § EStG) wie für

- selbst geschaffene (nicht entgeltlich erworbene, also originäre) immaterielle Wirtschaftsgüter (Vermögenswerte), originärer Firmenwert, Geldbeschaffungs-, Finanzierungs-, Gründungs- und Vertriebskosten

Bewertungsobergrenzen (§ 253 HGB, § 5 EStG) wie für

- Anschaffungskosten bzw. Herstellungskosten als absolute Wertobergrenzen in Handels- und Steuerbilanz für alle aktivierten Wirtschaftsgüter, d.h. Wertsteigerungen an so genannten „ruhenden Vermögen“ dürfen nicht aktiviert (bilanziert) werden

Die Aktivierungsverbote und Bewertungsobergrenzen führen mithin zu **stillen Zwangsrücklagen** (stillen gesetzlich erzwungenen Reserven)

oder durch

Wahrnehmen von Aktivierungswahlrechten (§§ 250 (3), 255 (4), 269 HGB; § 6(2) EStG) wie für

- entgeltlich erworbenen Firmen- oder Verschmelzungsmehrwert, Damnum/Disagio (dieses Wahlrecht besteht nur für die Handelsbilanz)
- geringwertige Wirtschaftsgüter (selbständig nutzbare bewegliche und abnutzbare Wirtschaftsgüter des Anlagevermögens mit Anschaffungs- oder Herstellungskosten von maximal € 410 gem. § 6(2) EStG i. V. m. § 5 (1) EStG in Handels- und Steuerbilanz)

Wahrnehmen von Bewertungswahlrechten (§§ 6 (2a), 6b, 7, 7b, d, g EStG; §§ 254, 281, 255(2) und (3), 240 (3) und (4), 256 HGB) wie für

- Wahl der Abschreibungsmethode, Steuerliche Sonderabschreibungen
- Umfang der Herstellungskosten bei Aktivierung
- Gruppen- und Festbewertung, LIFO-Verfahren (Verbrauchsfolgeunterstellung) bei steigender Preistendenz
- Minderung der Anschaffungs- oder Herstellungskosten bei Aktivierung
- Übertragung steuerfreier Rücklagen, Berücksichtigung von Zuschüssen

Die **Aktivierungs- und Bewertungswahlrechte** führen mithin zu so genannten **stillen Ermessensrücklagen**.

Schätzungsfehler bei Bilanzierung

Schätzungsfehler bei der Bemessung der Nutzungsdauer von abnutzbaren Anlagen (Nutzungsdauer wird zu kurz bestimmt) führen zu so genannten **stillen Schätzungsrücklagen**.

b) Überbewertung von Schulden

z.B. durch

das **Höchstwertprinzip**, es führt für die Bewertung von Schulden in fremder Währung bei fallenden Wechselkursen zu **stillen Zwangsrücklagen** (§ 253 (1) HGB)

oder

Schätzungsfehler bei der Bemessung von **Rückstellungen** (ungewisse Schulden und drohende Verluste aus schwebenden Geschäften) führen zu **stillen Schätzungsrücklagen**, wenn die Rückstellungen zu hoch angesetzt werden, d.h. die Rückstellungen übersteigen die spätere tatsächliche Inanspruchnahme.

Die verdeckte Gewinnfinanzierung kann sowohl in **Handelsbilanz** als auch in **Steuerbilanz** erfolgt sein (z.B. als Folge der umgekehrten Maßgeblichkeit gem. § 5 (1) EStG oder auch bei Aufstellung einer so genannten **Einheitsbilanz**); in diesem Fall stellen die stillen Rücklagen unversteuerte Rücklagen (Gewinne) dar, die teils Eigenkapitalcharakter und teils Fremdkapitalcharakter (Steuerstundung; die Ertragsbesteuerung ist lediglich hinausgeschoben) haben.

Da die Möglichkeiten im Handelsrecht zur Bildung stiller Rücklagen vielfältiger sind als im Steuerrecht (z.B. Aktivierung**wahlrecht** für den entgeltlich erworbenen - derivativen - Firmenwert gem. § 255 (4) HGB in der Handelsbilanz, aber Aktivierungs**gebot** und Verteilung der Abschreibung auf 15 Jahre gem. § 7 (1) EStG in der Steuerbilanz) enthält die Handelsbilanz oft stille Rücklagen, die in der Steuerbilanz nicht gebildet werden konnten. Da diese stillen Rücklagen keine „Steuerstundung“ beinhalten, stellen sie ausschließlich **Eigenkapital** dar; sie bewirken eine Ausschüttungssperre gegenüber den Eignern; darin liegt die Finanzwirksamkeit der verdeckten Gewinnfinanzierung, die lediglich über die Handelsbilanz erfolgt.

3 ABSCHREIBUNGSFINANZIERUNG (FREISETZUNGSFINANZIERUNG)

Abschreibungen haben im Unternehmen mehrfache Funktionen:

a) Abschreibungen bringen den **Werteverzehr** von Vermögenswerten (Wirtschaftsgütern im Anlage- und Umlaufvermögen) zum Ausdruck. Sie stellen **Aufwand** dar, der im Jahresabschluss (Gewinn- & Verlustrechnung) verrechnet wird. Als Aufwand mindern die Abschreibungen den Erfolg (Gewinn).

b) Stehen den Abschreibungen Erträge (Erlöse) in der Gewinn- & Verlustrechnung gegenüber, dann bewirkt die Aufwandsverrechnung eine **Ausschüttungssperre** gegenüber den Eignern (Handelsbilanz) und gegenüber dem Fiskus (Steuerbilanz). Damit diese **Ausschüttungssperre wirksam** wird, müssen die Abschreibungen „verdient“, d.h. durch Erträge gedeckt sein. Nur wenn diese Ausschüttungssperre greift, bewirken die Abschreibungen einen **Finanzierungseffekt** (Abschreibungsfinanzierung). Befindet sich das Unternehmen in einer Verlustzone, dann haben die Abschreibungen (zumindest zunächst) keine Finanzwirksamkeit (es sei denn, der Verlust kann mit Gewinnen der Vergangenheit verrechnet werden – Verlustrückübertrag – bzw. die Finanzwirksamkeit tritt erst in einer späteren Periode ein, wenn der Verlust mit künftigen Gewinnen verrechnet wird – Verlustvortrag und spätere Verrechnung).

Für die Finanzwirksamkeit der Abschreibungen ist also Voraussetzung, dass die Ausschüttungssperrfunktion der Aufwandsverrechnung wirksam wird.

c) Um die Finanzwirksamkeit der Abschreibungen („verdiente“ Abschreibungen) sicherstellen zu können, müssen die Abschreibungen in der **Kalkulation** berücksichtigt werden, d.h. sie stellen auch **Kosten** dar. Die Kalkulation hat die Aufgabe der **Verkaufspreisbestimmung** (z.B. Ermittlung eines Angebotspreises) oder der **Preisbeurteilung** (wenn am Markt ein Preis vorhanden ist).

d) Das Besondere an den Abschreibungen ist in diesem Zusammenhang, dass sie **ohne Ausgaben** sind, d.h. in der Periode der Verrechnung der Abschreibungen stehen diesen keine Ausgaben (Auszahlungen) gegenüber³ (im Gegensatz z.B. zu den Lohnaufwendungen, die ausgabewirksam sind). Durch die „verdienten“ Abschreibungen werden **Mittel freigesetzt**, die bisher in den Vermögenswerten gebunden waren (**Freisetzungsfiananzierung**, Finanzierung durch **Vermögensumschichtung**). Der Finanzierungseffekt liegt also in den Abschreibungsgegenwerten (Umsatzerlösen), die durch die wirksame Ausschüttungssperre im Unternehmen verbleiben.

³ Die Ausgaben (Auszahlungen) bei Anschaffung der Vermögenswerte, die den Abschreibungen letztlich zu Grunde liegen, sind in vorangegangenen Perioden vorgenommen worden.

e) Die Höhe der zu Finanzierungszwecken verwendbaren **Abschreibungsgegenwerte** ist von zwei Faktoren abhängig:

- von der Wahl der **Abschreibungsmethode**; sie ist ausschlaggebend für die unterschiedliche wertmäßige Verteilung des Abschreibungsaufwandes auf die einzelnen Abrechnungsperioden (z.B. lineare Abschreibung, degressive Abschreibung oder leistungsbezogene Abschreibung)
- von dem **Wert der Anlagegüter**, die sich im wirtschaftlichen Eigentum der Unternehmen befinden und abschreibungsfähig sind.⁴

Die Finanzierung aus Abschreibungs-Gegenwerten bezieht sich genau auf den Teil der Abschreibung, der der tatsächlichen Wertminderung der Vermögenswerte entspricht. Darüber hinausgehende Abschreibungsbeträge gehören nicht zur Finanzierung aus Abschreibungsgegenwerten, weil sie eine Unterbewertung von Vermögensgegenständen darstellen und mithin zur **verdeckten Gewinnfinanzierung** zählen (Bildung stiller Rücklagen).⁵

Von erheblicher Bedeutung für den Finanzierungseffekt der Abschreibungen ist der Umstand, dass die durch den Desinvestitionsprozess laufend anfallenden Abschreibungsgegenwerte erst zum Reinvestitionszeitpunkt benötigt werden und zwischenzeitlich anderweitig verwendet werden können oder gegebenenfalls zur Kapazitätserweiterung (Erhöhung der Periodenkapazität) dienen können (Lohmann-Ruchti-Effekt⁶). Der Kapazitätserweiterungseffekt führt jedoch nicht zu einer Erweiterung der Gesamt- oder Totalkapazität, diese bleibt bei vollständiger Reinvestition der Abschreibungsgegenwerte in die entsprechenden Anlagen grundsätzlich gerade gleich (erhalten). Die **Periodenkapazität** stellt das Leistungsvermögen dar, das von einem Anlagegut (z.B. Maschine) oder vom gesamten Anlagebestand (Faktorkombination) in einer Nutzungsperiode abgegeben werden kann. Die **Totalkapazität** eines Anlagegutes (z.B. Maschine) ergibt sich aus der Summe der noch abzugebenden Leistungen (Nutzungen), d.h. der Periodenkapazität multipliziert mit der (noch vorhandenen) Nutzungsdauer. Entsprechend ergibt sich die Totalkapazität einer Unternehmung aus der Summe der jeweiligen Periodenkapazitäten der Anlagegüter (Aggregate) multipliziert mit ihren zugehörigen Restnutzungsdauern. Ausschlaggebend für die maximale Leistungsabgabe in einer Periode ist die **Periodenkapazität**.

Die Tatsache, dass sich die Periodenkapazität bei permanenter Reinvestition der Abschreibungsgegenwerte erhöht (Kapazitätserweiterungseffekt oder „Lohmann-Ruchti-

⁴ Vgl. auch *Olfert, K./Reichel, C.*: Finanzierung, 12.A., Ludwigshafen 2003, S. 379

⁵ Vgl. auch *Jahrman, F.-U.*: Finanzierung, 5.A., Herne/Berlin 2003, S. 361

⁶ *Ruchti, H.*: Die Bedeutung der Abschreibung für den Betrieb, Berlin 1942 sowie *Perridon, L./Steiner, M.*: Finanzwirtschaft der Unternehmung, 11.A., München 2002, S. 473 ff.

Effekt“), die Totalkapazität aber nicht, erklärt sich dadurch, dass der Reinvestitionsprozess sich über mehrere Perioden hinweg wie folgt gestaltet: „weniger Anlagen mit höherer Nutzungsreserve werden substituiert durch mehr Anlagen mit einer im Durchschnitt kleineren Restnutzungsdauer.“⁷ Wird lineare Abschreibung unterstellt und werden die Abschreibungsgegenwerte kontinuierlich in die entsprechenden Anlagen reinvestiert, so kann der Kapazitätserweiterungseffekt maximal zu einer Verdoppelung der Periodenkapazität führen.⁸

Da jedoch in der Praxis keine kontinuierliche Abschreibung und Reinvestition der Abschreibungsgegenwerte (z.B. schon wegen der nicht hinreichenden Teilbarkeit der Anlagegüter) erfolgt, wird der Periodenkapazitätserweiterungseffekt (bei linearer Abschreibung) kleiner sein als die (rechnerisch) maximal erreichbare Verdoppelung. Durch die Berücksichtigung steigender Wiederbeschaffungspreise für die Anlagegüter wird der Effekt reduziert; bei fallenden Wiederbeschaffungspreisen verstärkt sich der Effekt entsprechend. Können produktivere Anlagen zu gleichen (oder ähnlich hohen) Preisen reinvestiert werden, so kann der Effekt erhöht werden.

Der Kapazitätserweiterungseffekt setzt also voraus, dass die Abschreibungsgegenwerte **wieder in das Anlagevermögen reinvestiert** werden. Eine andere Verwendung der „verdienten“ Abschreibungen, wie etwa Fremdkapitaltilgung, scheidet damit aus.

Da eine Ausweitung der Periodenkapazität in aller Regel ohne gleichzeitige **Ausweitung des Umlaufvermögens** (z.B. Erhöhung der Lagerbestände, Ausweitung des Bestandes an Debitoren und liquiden Mitteln) sowie des **Personalbestandes** nicht möglich sein wird, müssen diese Folgeverpflichtungen mit ihrem Kapitalbedarf **zusätzlich finanzierbar** sein.

Eine Kapazitätserweiterung ist im Übrigen nur sinnvoll, wenn entsprechende zusätzliche **Absatzmöglichkeiten** vorhanden sind oder geschaffen werden können.

4 FINANZIERUNG DURCH DIE FINANZIELLEN GEGENWERTE VON RÜCKSTELLUNGEN (**FINANZIERUNG AUS RÜCKSTELLUNGEN**)

a) **Rückstellungen - allgemein**

Durch die Bildung von Rückstellungen können finanzielle Mittel an das Unternehmen gebunden werden; diese stehen dann dem Unternehmen zu Finanzierungszwecken zur Verfügung.

⁷ Perridon, L./Steiner, M.: Finanzwirtschaft der Unternehmung, 11.A., München 2002, S. 474

⁸ Bei linearer Abschreibung und fortgesetzter Reinvestition der „verdienten“ Abschreibungen in die entsprechenden Anlagegüter tendiert die Periodenkapazität zu einer Verdoppelung: „der Anlagebestand besteht dann aus im Durchschnitt doppelt so viel 'halten' Anlagen, d.h. der Bestand an Anlagegütern hat im Durchschnitt die Hälfte der Nutzungsdauer verbraucht.“

Rückstellungen sind streng von den Rücklagen abzugrenzen. Rücklagen stellen – wie oben dargestellt – Eigenkapital dar. Die Bildung von Rückstellungen ist in § 249 HGB geregelt. Diese handelsrechtliche Ansatzvorschrift führt diejenigen Rückstellungen auf, die zwecks Vollständigkeit des Jahresabschlusses gem. § 246 HGB **gebildet werden müssen (Passivierungspflicht)**. Darüber hinaus regelt diese Ansatzvorschrift Tatbestände, die es dem Unternehmen **frei stellen**, bestimmte Rückstellungen zu bilden (**Passivierungswahlrecht**).

Nach § 249 (1) Satz 1 HGB **sind** Rückstellungen für ungewisse Verbindlichkeiten und für drohende Verluste aus schwebenden Geschäften zu bilden. Die Rückstellungen für ungewisse Verbindlichkeiten stellen die mit Abstand wichtigste Rückstellungsart dar, die auch steuerlich zu beachten ist. Die Steuerrechtsprechung hat in zahlreichen Einzelfragen erörtert, ob eine Rückstellung gebildet werden kann. Danach sind Rückstellungen für ungewisse Verbindlichkeiten nur zulässig, wenn folgende Voraussetzungen erfüllt sind:⁹

Es müssen ungewisse Verbindlichkeiten oder sonstige wirtschaftliche Lasten vorliegen, die das steuerliche Ergebnis beeinträchtigen; dies gilt auch für Verbindlichkeiten, die rechtlich noch nicht entstanden sind, wenn mit ihrem Entstehen ernstlich gerechnet werden muss und sie wirtschaftlich im abgelaufenen Geschäftsjahr verursacht sind. Hier gilt also die für die Bilanzierung typische **wirtschaftliche Betrachtung** (und nicht die formal juristische Betrachtung).¹⁰

Die Rückstellungen für ungewisse Verbindlichkeiten, zu denen auch die Verpflichtungen aus betrieblichen Pensionszusagen, die nach dem 31.12.1986 erfolgt sind, gehören, sind sehr zahlreich; sie betreffen Verpflichtungen aus abgeschlossenen Umsatzgeschäften, Rückstellungen für sonstige private und für öffentlich-rechtliche Verpflichtungen.

Außer diesen Rückstellungen für ungewisse Verbindlichkeiten **sind** gem. § 249 (1) Satz 2 Nr. 1 und 2 HGB Rückstellungen zu bilden für

- unterlassene Aufwendungen für Instandhaltung, die im folgenden Geschäftsjahr innerhalb von drei Monaten nachgeholt werden
- unterlassene Aufwendungen für Abraumbeseitigung, die im folgenden Geschäftsjahr nachgeholt werden
- Gewährleistungen, die ohne rechtliche Verpflichtung erbracht werden (so genannte Kulanzleistungen)

Hierbei handelt es sich um **Passivierungsgebote** aus der Erwägung heraus, dass jeweils eine **tatsächliche Last** vorliegt, der sich das Unternehmen nicht entziehen kann.

⁹ Vgl. hierzu *Ditges, J./Arendt, U.*: Bilanzen, 10. A., Ludwigshafen 2002, S. 80 f.

¹⁰ Zu Rückstellungen für Prozesskosten, Urlaubsverpflichtungen und Pensionen s. BFH-Urteil v. 06.12.1995 In § 5 (3) und (4) EStG sind unter den dort genannten Voraussetzungen Rückstellungen wegen **Patentrechtsverletzungen** sowie aus Anlass von **Dienstjubiläen** ausdrücklich vorgesehen.

In der **Steuerbilanz** dürfen **Drohverlustrückstellungen** gem. § 5 (4a) EStG nicht gebildet werden. Handels- und Steuerbilanz **stimmen** wegen des Passivierungsgebots des § 249 (1) Satz 1 HGB für die Handelsbilanz und des Passivierungsverbots des § 5 (4a) EStG für die Steuerbilanz **nicht überein** (notwendiges Auseinanderfallen der beiden Bilanzen).

Ein **Ansatzwahlrecht (Passivierungswahlrecht)** besteht für

- Rückstellungen für unterlassene Aufwendungen, die im folgenden Geschäftsjahr (4. bis 12. Monat) nachgeholt werden gem. § 249 (1) Satz 3 HGB
- dem abgelaufenen Geschäftsjahr oder früheren Jahren zuzuordnende, genau umschriebene **Aufwandsrückstellungen** gem. § 249 (2) HGB

Für diese Passivierungswahlrechte in der Handelsbilanz bestehen gem. § 5 EStG (Grundsatz der Maßgeblichkeit der Handelsbilanz für die Steuerbilanz) Passivierungsverbote für die Steuerbilanz.

Rückstellungen sind nur in Höhe des Betrages im Jahresabschluss anzusetzen, der nach vernünftiger kaufmännischer Beurteilung notwendig ist (§ 253 (1) HGB). Da aber die Bildung von Rückstellungen mit **Schätzungen** verbunden ist, bietet die Passivierung von Rückstellungen in der Regel eine willkommene Möglichkeit zur Bildung stiller Reserven (Siehe oben: stille Schätzungsrücklagen).

Grundsätzlich liegt bei der Bildung von Rückstellungen nur dann ein Finanzierungseffekt vor, wenn die zugehörigen Aufwendungen auch durch Erlöse gedeckt sind, d.h. die ausgabelosen Aufwendungen, die bei der Bildung von Rückstellungen in der Gewinn- und Verlustrechnung (G- & V-Rechnung) verrechnet werden, müssen ebenfalls „verdient“ sein. Dies entspricht den Bedingungen bei der Finanzierung aus Abschreibungsgegenwerten.

Rückstellungen werden zwar auch bei Verlusten gebildet, sind aber in diesem Fall nur dann finanzwirksam, wenn sie mit Gewinnen verrechnet werden (Verrechnung sofort mit einem Gewinnvortrag oder erst in einer späteren Periode mit erwirtschafteten Gewinnen). Verdiente **Rückstellungen**, die sowohl in der **Handelsbilanz** als auch in der **Steuerbilanz** gebildet werden, bewirken die erforderliche **Ausschüttungssperre gegenüber dem Fiskus (Steuerbilanz) und gegenüber den Eignern (Handelsbilanz)**. Nur wenn diese Ausschüttungssperre greift, liegt ein Finanzierungseffekt vor. Werden die (verdienten) Rückstellungen nur in der Handelsbilanz – durch Ausübung eines handelsrechtlichen Passivierungswahlrechts – gebildet, so ist der Finanzierungseffekt **nur teilweise** gegeben, da gegenüber dem **Fiskus** (infolge des Passivierungsverbotes in der Steuerbilanz) die **Ausschüttungssperre nicht greift**.

Im Übrigen ist der Finanzierungseffekt der **Finanzierung durch Rückstellungsgegenwerte** von der **Laufzeit der jeweiligen Rückstellung** abhängig.

Insofern ist der Finanzierungseffekt umso größer, je länger die Laufzeit der Rückstellungen ist. Da Rückstellungen in aller Regel im Unternehmen kontinuierlich gebildet werden, verbleibt trotz laufender (finanzwirksamer) Entnahme bzw. erfolgswirksamer Auflösung (in diesem Fall entpuppt sich dieser Teil der Rückstellungen als verdeckte Gewinnfinanzierung) ein so genannter „**Bodensatz**“ dauerhaft erhalten. Übersteigen die laufenden Entnahmen bzw. erfolgswirksamen Auflösungen die laufenden Einstellungen im Durchschnitt nicht, so steht dem Unternehmen **langfristig (unbefristet) der Finanzierungsbetrag aus den Rückstellungen** zur Verfügung. Diese Feststellung beinhaltet eine wichtige Aussage über die Qualität dieser Finanzierung aus Rückstellungsgegenwerten (**je längerfristig dieses Fremdkapital dem Unternehmen zur Verfügung steht, umso höher ist seine Qualität!**).

In dieser Beziehung sind die **Pensionsrückstellungen** ganz besonders bedeutsam. Pensionsrückstellungen erreichen in einer großen Zahl von Unternehmen ein beachtliches Volumen; „bei vielen Kapitalgesellschaften übersteigt ihr Volumen bereits das Grundkapital. Durch ihre lange Verweildauer im Unternehmen lassen sie einen hohen Finanzierungseffekt erwarten.“¹¹

b) Pensionsrückstellungen

Bei der Bildung von **Pensionsrückstellungen** werden zukünftige Pensionsansprüche bilanziert, die während der Betriebszugehörigkeit durch periodenbezogene Aufwandsverrechnung (ausgabelose – nicht finanzwirksame - Aufwendungen) angesammelt werden. Ein Finanzierungseffekt entsteht dadurch, dass den in der aktuellen Periode verrechneten Aufwendungen erst in **späteren Perioden** – wenn die Pensionsleistungen fällig werden – Auszahlungen gegenüber stehen. Voraussetzung für den Finanzierungseffekt ist allerdings wieder, dass den bei Bildung der Pensionsrückstellungen verrechneten (ausgabelosen) Aufwendungen – erfasst als Personalaufwand in der Gewinn- & Verlustrechnung – Umsatzerlöse gegenüberstehen, d.h. diese Aufwendungen sind „verdient“ (Finanzierung durch Gegenwerte der Rückstellungen). Die Ausschüttungssperrfunktion gegenüber Eignern (Handelsbilanz) und gegenüber Fiskus (Steuerbilanz) greift, wenn die Pensionsrückstellungen in Handels- **und** Steuerbilanz bilanziert sind. Gemäß § 249 (1) HGB besteht bei Direktzusagen eines Unternehmens gegenüber seinen Mitarbeitern ein Passivierungs**gebot**, das unter den Voraussetzungen für die **steuerliche Anerkennung** gemäß § 6a EStG auch für die Steuerbilanz gilt (Grundsatz der Maßgeblichkeit der Handelsbilanz für die Steuerbilanz gemäß § 5 (1) EStG).

Da nur die Arbeitnehmer bei Erfüllung der vertraglichen Voraussetzungen Ansprüche auf Pensionszahlungen haben, sind **Pensionsrückstellungen Fremdkapital (selbst gebildete, innenfinanzierte Schulden)**. Der Finanzierungseffekt der Pensionsrückstellungen hängt von der vorgesehenen Gewinnverwendung (Gewinnthesaurierung oder Gewinnausschüttung), von der Entstehung oder Vergrößerung eines Verlustes durch

¹¹ *Jahrman, F.-U.*: Finanzierung, 5. A., Herne/Berlin 2003, S. 372

vgl. auch *Perridon, L./Steiner, M.*: Finanzwirtschaft der Unternehmung, 11. A., München 2002, S. 478

die Rückstellungsbildung sowie von der Frage, in welchem Verhältnis die Zuführungen zu den Pensionsrückstellungen zur Höhe der periodischen Pensionszahlungen stehen. Grundsätzlich lassen sich drei mögliche Phasen unterscheiden:

Phase 1: die Rückstellungsbildung **übersteigt** in den einzelnen Perioden die Pensionszahlungen; Expansionsphase mit Aufbau der Pensionsanwartschaften für neue und meist junge Mitarbeiter. In dieser Phase hat der Finanzierungseffekt sehr **langfristigen Charakter**.

Phase 2: der Altersaufbau der Pensionsanwartschaften hat sich eingependelt; die Höhe der periodischen Zuführungen zu den (verdienten) Pensionsrückstellungen **entspricht** in etwa den laufenden Pensionszahlungen an die Pensionäre. Die angesammelten Gegenwerte der Pensionsrückstellungen bleiben dem Unternehmen (nahezu unverändert) für Finanzierungszwecke erhalten. Dem Unternehmen steht „dauerhaft günstiges (internes) Fremdkapital und ein unbefristeter Steuerkredit zinslos zur langfristigen Investitionsfinanzierung bereit.“¹²

Phase 3: die Rückstellungsbildung ist **geringer** als die in den einzelnen Perioden fälligen Pensionszahlungen; Kontraktionsphase mit entsprechender Liquiditätsbelastung. In dieser Phase ist der **Finanzierungseffekt negativ** für das Unternehmen, da die Pensionsrückstellungen zunehmend aufgelöst werden müssen (Reduktion des intern gebildeten Fremdkapitals).

Die Bildung von Pensionsrückstellungen (mit ihren Gegenwerten) hat einen größeren Finanzierungseffekt als die offene Gewinnthesaurierung in gleicher Höhe. Im ersten Fall wird der vollständige Betrag an das Unternehmen gebunden, im zweiten Fall nur der nach Abzug von Körperschaft- und Gewerbebeertragsteuer verbleibende Teil des einbehaltenen Gewinns. Die Ertragsteuern werden jedoch nur bis zur Auflösung (Entnahme oder erfolgswirksame Auflösung) „gestundet“, da es sich ja nur um eine **Vorverlagerung** von Betriebsausgaben (Aufwendungen in der Steuerbilanz) handelt.¹³

¹² *Jahrmann, F.-U.*: Finanzierung, 5. A., Herne/Berlin 2003, S. 378

¹³ Vgl. auch *Perridon, L./Steiner, M.*: Finanzwirtschaft der Unternehmung, 11. A., München 2002, S. 479

Ein Unternehmen, das Gewinne thesaurieren möchte, kann durch die Bildung von Pensionsrückstellungen Ertragsteuern hinausschieben. Der betriebliche (ausgabelose) Aufwand wird um die steuerlich anerkannte Rückstellungsbildung erhöht. Der ermittelte und steuerpflichtige Gewinn ist entsprechend reduziert. Möchte ein Unternehmen Gewinne ausschütten, dann bewirkt die Rückstellungsbildung eine Ausschüttungssperrfunktion gegenüber den Eignern, so dass nur der um die Pensionsrückstellungsbildung verkürzte Gewinn zur Ausschüttung kommt. Der Finanzierungseffekt der „verdienten“ Pensionsrückstellungen liegt in der Steuerstundung und der bewirkten Minderausschüttung von Gewinnen, also **ausschließlich in der Vermeidung von Mittelabflüssen**.

5 FINANZIERUNG AUS SONSTIGEN MITTELFREISETZUNGEN (GELDFREISETZUNGEN)

Die **Finanzierung aus sonstigen Mittelfreisetzungen** kann auf zweifache Weise erfolgen:¹⁴

- durch **Vermögensumschichtung** (Veräußerung von Gegenständen des Anlagevermögens
oder des
Umlaufvermögens)
- durch **Rationalisierungsmaßnahmen**

Die Abschreibungen bewirken eine **Vermögensumschichtung** (Mittelfreisetzung durch „verdiente“ Abschreibungen), d.h. Anlagevermögen wird **sukzessive** im Rahmen des regulären Umsatzprozesses in liquide Mittel überführt – bisher im Anlagevermögen gebundene Mittel werden freigesetzt (Geldfreisetzung, Freisetzungsfiananzierung). Darüber hinaus können Finanzierungseffekte durch anderweitige (außerhalb des regulären Umsatzprozesses) Veräußerungen von Vermögenswerten des Anlage- und Umlaufvermögens dauerhafte Mittelfreisetzungen auftreten. „Die Unternehmung kann sich finanzielle Mittel durch die **Veräußerung nicht betriebsnotwendiger Vermögensteile** beschaffen. So können etwa bisher in Grundstücken oder Wertpapieren gebundene Mittel zu einer Ausweitung der Produktionskapazität Verwendung finden.“¹⁵

Durch **Rationalisierungsmaßnahmen** kann eine dauerhafte Mittelfreisetzung (Vermögensumschichtung) erzielt werden, wenn z.B. der Lagerbestand durch eine bessere Terminierung und Abstimmung der Bestellungen reduziert werden kann. Auch die Liquidierung von Vorräten, die auf Grund von Umstellungen in der Fertigung nicht mehr verarbeitet werden („Überbestände“), ist gegebenenfalls möglich. Oder durch Verbesserung des Inkassos, d.h. die Forderungen aus Warenlieferungen und Dienstleistungen werden durch ein effizienteres Betreibungsmanagement bei gegebenem Umsatzvolumen reduziert. Weitere Beispiele für **Substitutionsfinanzierungen** (durch **Aktivtausch** werden die liquiden Mittel erhöht) können sein:

- Finanzierung durch Factoring (Verkauf von Forderungen aus Warenlieferungen und Dienstleistungen mit Inanspruchnahme der Bevorschussung durch den Factor – meist eine Bank)¹⁶
- Finanzierung durch Forfaitierung (Sonderform des Factoring im Rahmen der

¹⁴ Vgl. Olfert, K./Reichel, C.: Finanzierung, 12.A., Ludwigshafen 2003, S. 390 f.; Däumler, K.: Betriebliche Finanzwirtschaft, 8.A., Herne/Berlin 2002, S. 453 ff.; Perridon, L./Steiner, M.: Finanzwirtschaft der Unternehmung, 11.A., München 2002, S. 479 ff.

¹⁵ Perridon, L./Steiner, M.: Finanzwirtschaft der Unternehmung, 11.A., München 2002, S. 479

¹⁶ Vgl. dazu Däumler, K.-D.: Betriebliche Finanzwirtschaft, 8.A., Herne/Berlin 2002, S. 310 ff.

Exportfinanzierung)¹⁷

- Finanzierung durch Sale-and-lease-back-Verfahren (durch Verkauf des Leasingobjektes an den zukünftigen Leasinggeber – Leasinggesellschaft – werden gebundene Mittel freigesetzt, dabei bleibt aber der Anlagegegenstand durch **Lease Back** dem Unternehmen zur Nutzung erhalten)¹⁸

Diese Finanzierungsarten beinhalten also ebenfalls eine Finanzmittelbeschaffung durch Verflüssigung von Vermögensgegenständen (im Sinne von Aktivtausch); sie sind aber soweit institutionalisiert, dass sie in der Regel in der Literatur gesondert erörtert werden.¹⁹

6 BEURTEILUNG DER INNENFINANZIERUNGSARTEN

Die **offene Gewinnfinanzierung** führt zur Bildung von **Eigenkapital** (aus Gewinnen „nach Steuern“), sie stärkt die Eigenkapitalbasis eines Unternehmens durch Bildung offener Rücklagen und reduziert somit die Anfälligkeit des Unternehmens für (Unternehmens-) Krisen; dies beinhaltet sogleich eine Stärkung der Kreditfähigkeit – und damit werden die Fremdfinanzierungskonditionen des Unternehmens individuell verbessert – und dies wird alles ermöglicht ohne Veränderung der Machtstruktur im Unternehmen (Machtausübung durch das Kapital in einer kapitalistisch organisierten Unternehmung). Voraussetzung für das Funktionieren dieser Innenfinanzierungsart ist allerdings, dass das Unternehmen Gewinne erwirtschaftet und diese im Unternehmen thesauriert werden können (Verzicht der Eigner auf Ausschüttung).

Die **verdeckte Gewinnfinanzierung** führt zur Bildung von **stillen Rücklagen** durch Einbehalten erwirtschafteter, aber nicht ausgewiesener Gewinne in der Handelsbilanz (Ausschüttungssperre gegenüber Eignern wird wirksam) und gegebenenfalls in der Steuerbilanz (Ausschüttungssperre gegenüber Fiskus wird wirksam). Die verdeckte Gewinnfinanzierung verhindert den Entzug erwirtschafteter Umsatzerlöse (Gewinne) dadurch, dass die Gewinne nicht ausgewiesen werden. Diese Innenfinanzierungsart erhöht die Kapitalbasis des Unternehmens (Eigenkapital und gegebenenfalls Fremdkapital – „Steuerstundungseffekt“) ohne dass dies aus der Bilanz abgelesen werden kann. Die Bildung stiller Rücklagen (stiller Reserven) stärkt grundsätzlich die Machtposition der Verwaltungsorgane (Vorstand/Geschäftsführung und gegebenenfalls Aufsichtsrat/Beirat) einer Unternehmung – dies schon dadurch, dass die Bildung der stillen Rücklagen keine Verschiebung in der Machtposition der Kapitalgeber (Eigner und Gläubiger) bedeutet und dadurch, dass die stillen Rücklagen gegebenenfalls durch die Verwaltungsorgane aufgelöst und zur Ausschüttung verwendet werden können (z.B. wird oft das „Ziel der Dividendenkontinuität“ verfolgt). Mithin ist es folgerichtig, dass die Verwaltungsorgane

¹⁷ Vgl. dazu Busse, F.-J.: Grundlagen der betrieblichen Finanzwirtschaft, 3.A., München/Wien 1993, S. 356 ff.

¹⁸ Vgl. dazu Perridon, L./Steiner, M.: Finanzwirtschaft der Unternehmung, 11.A., München 2002, S. 450 ff.

¹⁹ Vgl. z.B. Jahrmann, F.-U.: Finanzierung, 5.A., Herne Berlin 2003, S. 191 ff., S. 199 ff., S. 206 ff.

alle Möglichkeiten der verdeckten Gewinnfinanzierung wahrnehmen (vorausgesetzt: das Unternehmen erwirtschaftet entsprechende Gewinne). Im deutschen Handelsgesetzbuch (HGB) wird die Bildung stiller Rücklagen mit dem dominierenden „**Grundsatz einer vorsichtigen Bewertung**“²⁰ (**Vorsichtsprinzip**) begründet. Das Vorsichtsprinzip soll in erster Linie den **Gläubiger schützen** (Grundsatz des Gläubigerschutzes). Das Vorsichtsprinzip (konkretisiert in Form des Realisationsprinzips, des Imparitätsprinzips – Niederstwertprinzip für das Vermögen und Höchstwertprinzip für die Schulden) wird im HGB konsequent als dominierende Zielsetzung der handelsrechtlichen Rechnungslegung verfolgt; dies allerdings zu Lasten der Zielsetzung, die das HGB in § 264 (2) HGB wie folgt formuliert: „Der Jahresabschluss der Kapitalgesellschaft hat unter Beachtung der Grundsätze ordnungsmäßiger Buchführung ein den tatsächlichen Verhältnissen entsprechendes Bild der Vermögens-, Finanz- und Ertragslage der Kapitalgesellschaft zu vermitteln.“

Es ist allerdings als sehr **kritisch** anzumerken, dass die Regelungen des HGB im Wesentlichen der erklärten Zielsetzung „**Schutz des Gläubigers durch die Rechnungslegung**“ nicht gerecht werden. Die Bildung stiller Rücklagen erschwert nämlich die Beurteilung der Vermögens-, Finanz- und Ertragslage des Unternehmens durch die Gläubiger. In Perioden der Bildung stiller Rücklagen ist der Gläubiger zwar vermeintlich geschützt; notfalls verfügt das Unternehmen ja noch über stille „**Reserven**“, so dass für die Gläubiger kein Problem zu erkennen ist. Insbesondere werden Vermögen, Kapital und Erfolg **verzerrt** ausgewiesen. Problematisch ist aber insbesondere die Möglichkeit der „**stillen**“ Auflösung stiller Reserven in Zeiten „schlechter Ertragslage“ des Unternehmens. Genau in dieser Phase – und nur in dieser – benötigt der Gläubiger Schutz; aber gerade jetzt (in einer so kritischen Phase) hat er den vom HGB angestrebten Schutz allerdings nicht. Jetzt erweist sich die vom HGB gut gemeinte Bildung von **stillen Reserven** als Bumerang für die Gläubiger. Dürften nämlich keine stillen Reserven gebildet werden (wie handelsrechtlich erlaubt oder sogar erzwungen), könnten sie im „Bedarfsfall“ – „schlechte Ertragslage“ – auch nicht aufgelöst werden.

Die Schätzung der Bildung und Auflösung stiller Reserven ist zuverlässig durch externe Analytiker nicht möglich. Mithin entziehen sich die stillen Rücklagen der Rechenschaftslegung und Kontrolle durch die Gläubiger. Ohne Frage wäre der absolut „beste Gläubigerschutz“ eine „wahre Rechnungslegung“, wenn also der Grundsatz des „**True and fair view**“ („... ein den tatsächlichen Verhältnissen entsprechendes Bild ... zu vermitteln“) uneingeschränkt verfolgt werden müsste.

Die **Finanzierung aus Abschreibungsgegenwerten** bedeutet eine Vermögensumschichtung (Mittel-/Geldfreisetzung) im Rahmen des Umsatzprozesses.

²⁰ In § 252 (1) Nr. 4 HGB heißt es: „Es ist vorsichtig zu bewerten, namentlich sind alle vorhersehbaren Risiken und Verluste, die bis zum Abschlussstichtag entstanden sind, zu berücksichtigen, selbst wenn diese erst zwischen dem Abschlussstichtag und dem Tag der Aufstellung des Jahresabschlusses bekannt geworden sind; Gewinne sind nur zu berücksichtigen, wenn sie am Abschlussstichtag realisiert sind.“

Voraussetzung ist, dass die Abschreibungsgegenwerte in liquider Form dem Unternehmen zugeflossen sind. Für kapitalintensive Unternehmen mit relativ hohem der Abnutzung unterliegendem Vermögen (Nutzungsdauer zeitlich begrenzt) stellt die Abschreibungsfinanzierung in der Regel vom Umfang her die mit Abstand bedeutendste Finanzierungsart dar. So betragen z.B. die Abschreibungen auf das Anlagevermögen (ohne Finanzanlagen) des Henkel Konzerns im Jahr 2005 Mio. € 334, das sind fast 30% des gesamten Cash-flow aus laufender Geschäftstätigkeit²¹. Bei der Finanzierung durch Abschreibungsgegenwerte findet **keine** Kapitalbildung statt. Das gilt ebenso für die **Finanzierung aus sonstigen Mittelfreisetzen (sonstigen Geldfreisetzen)**. Bei Innenfinanzierung mit Eigen- oder Fremdkapitalbildung erhöht sich die Bilanzsumme („Bilanzverlängerung“); bei Freisetzenfinanzierung (Vermögensumschichtung) ist dies nicht der Fall.

Ist jedoch die als Aufwand in der G&V-Rechnung verrechnete und „verdiente“ Abschreibung **höher** als der tatsächliche Werteverzehr, so stellt dieser „überhöhte“ Teil der Abschreibung **verdeckte Gewinnfinanzierung** (mit Kapitalbildung) dar und nicht **Finanzierung aus Abschreibungsgegenwerten**.

Die **Finanzierung aus Rückstellungsgegenwerten** stellt Fremdkapitalbildung dar. Die Finanzierung aus Rückstellungsgegenwerten ist daher als **innerbetriebliche Fremdfinanzierung** einzuordnen²². Möglich ist die Finanzierung durch Rückstellungsgegenwerte dadurch, dass der zugehörige Aufwand für die Rückstellungsbildung in der Abrechnungsperiode in der G&V-Rechnung verrechnet und „verdient“ wird, die zugehörigen Auszahlungen aber erst in folgenden Perioden anfallen.

Die Finanzierungswirkungen der Rückstellungsgegenwerte hängen von den **Verweildauern (Überlassungsdauern) der Rückstellungen** im Unternehmen ab. „Ein Teil der Rückstellungen, insbesondere für Instandhaltung oder Steuerzahlungen, verbleibt nur kurzfristig im Unternehmen, andere für laufende Prozesse oder Garantien sind eher mittelfristig.“²³ Pensionsrückstellungen haben hingegen immer langfristigen Charakter. Für den Finanzierungseffekt ist die **Fristigkeit** der gebildeten Rückstellungen entscheidend. Insofern ist der Finanzierungseffekt **umso größer, je länger** die durchschnittliche Laufzeit (Verweildauer im Unternehmen) der Rückstellungen ist.

B. Ermittlung des Innenfinanzierungsumfangs eines Unternehmens

1. BEGRIFF CASH-FLOW

Zur Ermittlung des Innenfinanzierungsumfangs wird der Cash-flow bestimmt. Die in den USA synonymen Begriffe „cash income“, „cash funds from operations“, „cash earnings oder cash-flow-earnings“, „net cash operation“ werden mit „finanzwirtschaftlichem

²¹ Vgl. Henkel Geschäftsbericht 2005 – Kurzfassung (Henkel KGaA Düsseldorf), S. 20

²² Vgl. Perridon, L./Steiner, M.: Finanzwirtschaft der Unternehmung, 11.A., München 2002, S. 477

²³ Jahrmann, F.-U.: Finanzierung, 5.A., Herne/Berlin 2003, S. 371

Geldstrom“, „netto-Bargeldstrom“, „finanzwirtschaftlicher Überschuß“, „Zuwachskapital“, „Innenfinanzierungsmittel“, „eigen erwirtschaftete Mittel“ in Verbindung gebracht. Eine brauchbare deutsche Übersetzung hat sich allerdings nicht durchsetzen können. In der deutschen Literatur dominieren die Bezeichnungen **Cash-flow** und **Cash Earnings**.

Definition:

Die **Kennzahl Cash-flow** wird in der Literatur zur Finanz- und Bilanzanalyse²⁴ unterschiedlich weit gefasst. Darüber hinaus wird der Begriff auch für Umsatzüberschussrechnungen verwendet, die unter dem Oberbegriff der Kapitalflussrechnungen subsumiert werden (Cash-flow-Statements).²⁵

Unter **Cash-flow** (periodenbezogen) verstehen wir den Nettozugang an finanziellen Mitteln aus der Umsatztätigkeit innerhalb einer Periode:

Cash-flow = Differenz aus finanzwirksamen (einzahlungs- oder einnahmegleichen) Erträgen und finanzwirksamen (auszahlungs- oder ausgabegleichen) Aufwendungen²⁶

oder

Cash-flow = Überschuss der Ertragseinzahlungen über die Aufwandsauszahlungen der Periode²⁷

2. METHODEN DER ERMITTLUNG DES CASH-FLOW EINER PERIODE

In der Literatur werden zwei Ansätze – die **direkte und die indirekte Methode** – zur Ermittlung des **Cash-flow (Cash Earnings)** einer Abrechnungsperiode beschrieben. Bei korrekter Bestimmung führen beide Methoden zum gleichen Ergebnis. Die direkte Methode wird vor allem bei unternehmensinterner Ermittlung verwendet; dies deshalb, da diese Ermittlungsmethode auf Grund ihrer Vorgehensweise das gedankliche Fundament des Cash-flow bildet. „Eine exakte Berechnung in direkter Form ist bei externer Analyse i. d. R. nicht möglich.“²⁸

²⁴ „Für die Unternehmensbewertung wird der Cash-Flow heute als ein unentbehrlicher Spitzenwert betrachtet.“ *Riebell, C./Grün, D.*: Cash-Flow, Bewegungsbilanz und Kapitalflussrechnung, 4.A., Stuttgart 2003; s. auch: *Behringer, S.*: Csh-flow und Unternehmensbeurteilung, 8.A., Berlin 2003; *Meyer, C.*: Bilanzierung nach Handels- und Steuerrecht, 16.A., Herne/Berlin 2005, S. 294 ff.

²⁵ Vgl. *Perridon, L./Steiner, M.*: Finanzwirtschaft der Unternehmung, 11.A., München 2002, S. 599 ff.

²⁶ Um den Begriff „**Cash-flow**“ verstehen zu können, muss streng zwischen folgenden Begriffen des betrieblichen Rechnungswesens unterschieden werden:

- a) Einzahlungen und Auszahlungen (Liquiditätsrechnung)
- b) Einnahmen und Ausgaben (Einnahmen-Ausgabenrechnung)
- c) Erträge und Aufwendungen (Gewinn- und Verlustrechnung; „G&V-Rechnung“)

²⁷ Es werden also nur finanzwirksame (zahlungswirksame) Erfolgspositionen der G&V-Rechnung berücksichtigt.

²⁸ *Perridon, L./Steiner, M.*: Finanzwirtschaft der Unternehmung, 11.A., München 2002, S. 562

2.1 Direkte Methode der Cash-flow-Ermittlung

Die **direkte (progressive) Berechnungsmethode des Cash-flow** geht von den Zahlen der Gewinn- und Verlustrechnung (G&V-Rechnung) aus und ist analog aufgebaut. Es muss jeweils bestimmt werden, welche Erträge und Aufwendungen finanzwirksam sind, d. h. zu Einzahlungen (oder Einnahmen) und Auszahlungen (oder Ausgaben) geführthaben. Soll die Cash-flow-Ermittlung der Wahrung (Kontrolle) der Liquidität des Unternehmens dienen, sind für die **Finanzwirksamkeit** der Erträge und Aufwendungen die **Einzahlungen und Auszahlungen** bestimmend²⁹.

Ausgehend von den **einzahlungsgleichen Umsatzerlösen** werden die übrigen einzahlungsgleichen Erträge addiert und die **auszahlungsgleichen Aufwendungen** der Abrechnungsperiode subtrahiert; die verbleibende Differenz stellt den **Cash-flow (betriebliche Nettoeinnahmen) der Periode** dar.

Bei **externer Betrachtung (externer Bilanzanalyse)** wird diese Unterscheidung in finanzwirksame und nicht finanzwirksame Erträge und Aufwendungen „vielfach nicht zweifelsfrei möglich sein.“³⁰

Perridon/Steiner schlagen das folgende Berechnungsschema für die **externe Analyse** als **direkte** Ermittlungsmethode vor:³¹

„Direkte Ermittlung

finanzwirksame Erträge	
./. finanzwirksame Aufwendungen	
./. Mehrung (+ Minderung) kurzfristiger Aktiva	
(Vorräte, Forderungen usw., jedoch ohne Geldfonds, d. h. Kasse, Bank, Postscheck)	
./. Minderung (+ Mehrung) kurzfristiger Passiva	

=	finanzwirtschaftlicher Cash Flow“
	=====

2.2 Indirekte Methode der Cash-flow-Ermittlung

Bei der **indirekten (retrograden) Methode der Cash-flow-Ermittlung** wird vom Jahreserfolg gemäß Gewinn- und Verlust- Rechnung (G&V-Rechnung) ausgegangen.

²⁹ Der Cash-flow als Kennziffer für die **Nettoeinnahmen** stellt, wie aus der Bezeichnung schon hervorgeht, auf die Ebene der **Einnahmen und Ausgaben** ab und ermittelt den **Einnahmenüberschuss einer Periode**. **Betriebliche Nettoeinnahmen** liegen auch dann vor, wenn sämtliche Umsätze auf Ziel getätigt wurden und daraus keinerlei Einzahlungen erfolgt sind. Um dies auszuschalten müssten alle Bestandsveränderungen berücksichtigt werden, die Zahlungswirkungen hervorrufen. (vgl. *Perridon, L./Steiner, M.*: Finanzwirtschaft der Unternehmung, 11.A., München 2002, S. 567)

³⁰ *Perridon, L./Steiner, M.*: Finanzwirtschaft der Unternehmung, 11.A., München 2002, S. 567

³¹ Ebenda

Dieser Erfolg wird um die **finanzunwirksamen (auszahlungs- oder ausgabenlosen) Aufwendungen erhöht** und um die **finanzunwirksamen (einzahlungs- oder einnahmeloosen) Erträge reduziert**:

Jahresüberschuss/Jahresfehlbetrag gemäß G&V-Rechnung³²
+ finanzunwirksame (auszahlungs- oder ausgabenlose) Aufwendungen
./. finanzunwirksame (einzahlungs- oder einnahmeloose) Erträge
= Cash-flow (Cash Earnings)

Damit unterschiedliche Ermittlungsverfahren des Cash-flow vermieden werden können, hat die DVFA/SG³³ folgendes „**Arbeitsschema zur Ermittlung des Cash Flow nach DVFA/SG**“ empfohlen:

1.	Jahresüberschuss/-fehlbetrag
2. +	Abschreibungen auf Gegenstände des Anlagevermögens
3. ./.	Zuschreibungen zu Gegenständen des Anlagevermögens
4. + / ./.	Veränderung der Rückstellungen für Pensionen bzw. anderer langfristiger Rückstellungen
5. + / ./.	Veränderung der Sonderposten mit Rücklageanteil
6. + / ./.	andere nicht zahlungswirksame Aufwendungen und Erträge von wesentlicher Bedeutung
7. =	Jahres-Cash Flow
8. + / ./.	Bereinigung um ungewöhnliche zahlungswirksame Aufwendungen/Erträge von wesentlicher Bedeutung (Bereinigung um „Sondereinflüsse“)
9. =	Cash-flow nach DVFA/SG

³² Vgl. § 275 (2), (3) HGB

³³ Gemeinsame Empfehlung der Deutschen Vereinigung für Finanzanalyse und Anlageberatung (DVFA) vgl. www.dvfa.de und des Arbeitskreises „Externe Unternehmensrechnung“ der Schmalenbach-Gesellschaft – Deutsche Gesellschaft für Betriebswirtschaft (SG) vgl. www.dvfa-sg.de

Das Hauptproblem der Ermittlung des Ergebnisses nach DVFA/SG besteht in der Bestimmung (Definition) der zu bereinigenden Sondereinflüsse. In der gemeinsamen Empfehlung werden zwei Gruppen von **Sondereinflüssen** unterschieden:

- **ungewöhnliche Aufwendungen und Erträge**³⁴. Sie werden durch drei Kriterien definiert, und zwar 1. Höhe des Betrags im Verhältnis zu den gewöhnlichen Aufwendungen und Erträgen, 2. Seltenheit des Auftretens der Aufwendungen/Erträge, 3. Nichtvorliegen eines Gewinns oder Verlusts aus kontinuierlichen Aktivitäten.

- **dispositionsbedingte Aufwendungen und Erträge**. Als dispositionsbedingt werden Erträge und Aufwendungen definiert, die im Rahmen bestehender Bewertungs- und Ermessensspielräume entstehen. Zur Abgrenzung bei der Ausübung der Spielräume wird auf den so genannten „**Normalfall**“ abgestellt. Mithin sind Aufwendungen und Erträge, die in Ausübung der bestehenden Bewertungs- und Ermessensspielräume entstehen und vom „Normalfall“ abweichen, zu bereinigen. Dies gilt auch für Aufwendungen und Erträge, die als Folge von Änderungen der angewandten Bewertungsmethoden entstehen.

Die Korrekturen³⁵ des Jahresüberschusses/Jahresfehlbetrages sollen nach den Empfehlungen DVDA/SG nur insoweit erfolgen, wie sie von wesentlicher Bedeutung sind und zeitliche Verwerfungen zwischen Erfolgs- und Zahlungswirksamkeit repräsentieren. Bei den empfohlenen Korrekturen sollen auch nur solche Erträge und Aufwendungen berücksichtigt werden, die nicht im Abrechnungs- oder **Folgejahr finanzwirksam** sind bzw. werden.

C. Beurteilung der Aussagefähigkeit der Kennzahl Cash-flow

Durch die Kennzahl Cash-flow wird versucht, ein aussagekräftiges Kriterium zur Beurteilung der Finanzkraft und Liquidität eines Unternehmens (Konzerns) zu gewinnen. Es wird insbesondere versucht, die Aussageschwächen des Jahresabschlusses nach Handelsrecht (HGB) in zwei Punkten zu beheben. Auf der einen Seite können durch die Berechnung des Cash-flow die „Manipulationsmöglichkeiten“ des Jahresabschlusses nach HGB weitgehend eliminiert werden. Gerade in den **nicht finanzwirksamen Erträgen und Aufwendungen** bestehen die genannten „Manipulationsmöglichkeiten“. Diese Erträge und Aufwendungen sind nämlich solche, die **nicht** über den Markt realisiert werden; die

³⁴ Zu den „ungewöhnlichen Aufwendungen und Erträgen“ rechnen die „außerordentlichen Aufwendungen und Erträge, so wie sie in § 277 (4) HGB definiert sind sowie Aufwendungen und Erträge aus Maßnahmen wie Aufgabe von Geschäftsbereichen, Stilllegung von Teilbetrieben, außergewöhnliche Schadensfälle, Sanierungsmaßnahmen etc.

³⁵ Die notwendigen „Korrekturen“ lassen sich wie folgt leicht erklären:

Im Jahresüberschuss/Jahresfehlbetrag sind gemäß G&V-Rechnung nach § 275 HGB **alle Erträge und Aufwendungen** einer Periode erfasst, also die finanzwirksamen wie auch die nicht finanzwirksamen. Im Cash-flow werden aber nur die **finanzwirksamen** Erträge und Aufwendungen erfasst. Um vom Jahresüberschuss/Jahresfehlbetrag retrograd auf den Cash-flow überzuleiten, bedarf es der Korrektur um die **nicht finanzwirksamen Aufwendungen und Erträge**. So vermindern beispielsweise die Abschreibungen auf Gegenstände des Anlagevermögens (als nicht finanzwirksame Aufwendungen) den **Jahresüberschuss**. Da der Jahresüberschuss/Jahresfehlbetrag bei der **indirekten** Methode die Ausgangsbasis der Cash-flow-Ermittlung darstellt, ist sie um diesen **nicht finanzwirksamen** Abschreibungsbetrag zu viel reduziert: mithin muss die Korrektur durch **Addition dieser Abschreibungen** erfolgen.

finanzwirksamen hingegen müssen sämtlich über den Markt – als objektive Instanz – realisiert werden. Wie oben dargestellt erfolgt ja gerade die Bildung und Auflösung der **stillen Reserven** nicht zuletzt bei der Bemessung der Abschreibungen und der Bildung der Rückstellungen. Wird also beispielsweise „zu viel“ abgeschrieben, so wirkt sich dies entsprechend auf den dann verminderten Jahresüberschuss aus. Der Cash-flow wird hierdurch nicht beeinflusst. Die „zu hohe“ Abschreibung wird ja durch die Korrektur (Addition der „überhöhten“ Abschreibung) in gleicher Höhe eliminiert.

Auf der anderen Seite besteht durch die Ermittlung des Cash-flow nach DVFA/SG die Möglichkeit über die sonstigen vorhandenen Möglichkeiten des Jahresabschlusses hinaus ein Unternehmen aus finanzwirtschaftlicher und ertragswirtschaftlicher („bereinigtes Ergebnis nach DVFA/SG“) Sicht besser beurteilen zu können. Gerade die **einheitliche Verwendung der indirekten Berechnungsmethode nach DVFA/SG** erlaubt einen einheitlichen Maßstab für **zwischenbetriebliche Vergleiche**.

Das Ergebnis nach DVFA/SG umfasst sowohl das Gesamtergebnis („bereinigter Jahresüberschuss“) als auch das Ergebnis je Aktie. Das Ergebnis je Aktie bildet die Grundlage für die Ermittlung des **Kurs/Gewinn-Verhältnisses (KGV)**. Das „bereinigte Ergebnis“ kann sowohl vom publizierenden Unternehmen als ergänzende Information mit dem Jahresabschluss und Lagebericht veröffentlicht werden.

Aus der Praxis:

Im Geschäftsbericht 2002 (Ende des Geschäftjahres 30.09.2002) der *Metallgesellschaft* (Mitglied der *GEA – Group* in Bochum) heißt es:³⁶

„Die **Konzern-Kapitalflussrechnung (Cash Flow Statement)** wurde gemäß SFAS 95 („Statement of Cash Flows“) in laufende Geschäftstätigkeit, Investitionstätigkeit und Finanzierungstätigkeit untergliedert. ... Die Zahlungsströme aus Unternehmensverkäufen bzw. –erwerben in der Sektion Investitionstätigkeit wurden um die abgegangenen bzw. zugegangenen Liquiden Mittel bereinigt.

Der Cash Flow gemäß dem Gliederungsschema DVFA/SG beläuft sich auf 456.620 T € (Vorjahr: 447.721 T €). ...

³⁶ www.geagroup.com/mg/microsites/gb2002/de_content/anhang_05.html vom 13.03.2006

	2001/02	2000/01
	T €	T €
Ergebnis vor Steuern	320.293	294.432
Steuern vom Einkommen und vom Ertrag	- 121.599	- 157.091
Anteile Dritter am Ergebnis	- 9.069	- 5.887
Abschreibungen auf das Anlagevermögen	2 37.384	313.726
Weitere nicht zahlungswirksame Aufwendungen (Vorjahr: Erträge)	7.277	- 3.583
Veränderung der Pensionsrückstellungen	22.334	6.124
= Cash Flow gemäß Gliederung DVFA/SG	456.620	447.721“

1998 wurde erstmals für **börsennotierte Mutterunternehmen** in § 297 (1) HGB gesetzlich vorgeschrieben, dass der Konzernanhang um eine **Kapitalflussrechnung** zu erweitern ist. Danach hat jeder Konzernabschluss eines Konzerns mit einem börsennotierten Mutterunternehmen für die Geschäftsjahre, die nach dem 31.12.2004 beginnen, **zwingend** eine **Kapitalflussrechnung** als Bestandteil des Anhangs zu umfassen. Gesetzlich ist die Ausgestaltung dieses neuen Instruments der Rechnungslegung nicht geregelt.

Das DRSC (privates „Deutsches Rechnungslegungs Standards Committee e.V.“) verabschiedete in der Zwischenzeit DRS (Deutsche Rechnungslegungsstandards, die vom Bundesjustizministerium bekannt gemacht wurden; bei Beachtung dieser „DRS“ wird die Einhaltung der die Konzernrechnungslegung betreffenden Grundsätze ordnungsmäßiger Buchführung gem. § 342 (3) HGB vermutet). Für Unternehmen, die dem PubLG³⁷ unterliegen, gelten diese Regelungen entsprechend.

Das DRSC hat den **Standard DRS 2 zur Kapitalflussrechnung** erlassen.³⁸ Der Standard DRS 2 umschreibt die Zielsetzung der Kapitalflussrechnung wie folgt: „Die Kapitalflussrechnung soll den Einblick in die Fähigkeit des Unternehmens verbessern, künftig finanzielle Überschüsse zu erwirtschaften, seine Zahlungsverpflichtungen zu erfüllen und Ausschüttungen an die Anteilseigner zu leisten. Hierzu soll sie für die Berichtsperiode die Zahlungsströme darstellen und darüber Auskunft geben, wie das Unternehmen aus der laufenden Geschäftstätigkeit Finanzmittel erwirtschaftet hat und welche zahlungswirksamen Investitions- und Finanzierungsmaßnahmen vorgenommen wurden.“³⁹

Aufstellungsmethoden nach DRS 2:

Unterschieden wird die originäre und derivative Ermittlung. Bei der **originären Methode** werden alle Zahlungsströme unmittelbar aus den Buchhaltungen der einzelnen (Konzern-) Unternehmen erfasst. In der Praxis wird meist von der **derivativen**

³⁷ „Gesetz über die Rechnungslegung von bestimmten Unternehmen und Konzernen (Publizitätsgesetz – PubLG)“

³⁸ Darüber hinaus betreffen die beiden verabschiedeten Standards DRS 2-10 die Kapitalflussrechnung von Kreditinstituten und DRS 2-20 die Kapitalflussrechnung von Versicherungen

³⁹ Meyer, C.: Bilanzierung nach Handels- und Steuerrecht, 16.A., Herne/Berlin 2005, S. 295

NEUER EIGENKAPITALSTANDARD BASEL II UND SEINE AUSWIRKUNGEN AUF DEN MITTELSTAND

Prof. Dr. Urban Bacher und Timo Keppler
Hochschule Pforzheim

1. EINLEITUNG

Kreditinstitute sind Risikohändler und spielen in modernen Volkswirtschaften eine besondere Rolle. Sie sind nicht nur Mittler zwischen Kreditnehmern und Einlegern, sondern stellen darüber hinaus vielfältige Finanzdienstleistungen zur Verfügung. Dabei ist der professionelle Umgang mit Risiken eine der wichtigsten Leistungen von Finanzintermediären. Dieses Management der Risiken darf jedoch nicht zu Instabilitäten im Finanzsektor führen.

Seit 1999 veröffentlichte der Baseler Ausschuss für Bankenaufsicht mehrere Konsultationspapiere¹ (Basel II), die besondere Aufsichtsregeln für Kreditinstitute enthalten. Zielsetzung dieser Regeln ist die Sicherung der Stabilität des Finanzsystems. Daher räumt Basel II der Eigenkapitalunterlegung von Risiken eine große Bedeutung ein. Zu diesen Risiken zählen z. B. das Ausfallrisiko bei Krediten oder auch operationelle Risiken. Insbesondere die risikoadäquate EK-Unterlegung von Kreditrisiken ließ für kleine und mittlere Unternehmen (KMU), die tendenziell höhere Risiken aufweisen, eine restriktivere Kreditvergabepraxis („credit crunch“) durch die Banken befürchten.² Der Schwerpunkt von Basel II liegt zwar auf international tätigen Banken und würde damit nur etwa zwanzig Deutschland tätige Kreditinstitute betreffen, die EU-Kommission möchte Basel II jedoch für alle europäischen Kreditinstitute mittels einer EU-Richtlinie verbindlich machen. Hiervon wären auch die typischen deutschen Mittelstandsbanken wie Sparkassen und Genossenschaftsbanken betroffen. Dies würde gerade für deutsche Unternehmen eine große Bedrohung darstellen, da sie im internationalen Vergleich in hohem Maße über Bankkredite finanziert sind. Die deutsche Politik und diverse Wirtschaftsverbände haben dieses Szenario aufgegriffen und ihren Einfluss beim Baseler Ausschuss geltend gemacht, wodurch verschiedene Reformvorschläge im Interesse der deutschen Wirtschaft erreicht werden konnten.³

Die vorliegende Arbeit beschäftigt sich mit der dritten Fassung von Basel II vom April 2003 und untersucht die Neuregelungen der EK-Unterlegung bei Banken und deren Auswirkungen auf das Kreditgeschäft mit KMU. Hierbei wird schwerpunktmäßig auf die

¹ Vgl. Baseler Ausschuss für Bankenaufsicht, Konsultationspapier - Die Neue Baseler Eigenkapitalvereinbarung (Übersetzung der Deutschen Bundesbank unter www.bundesbank.de; Vgl. auch Deutsche Bundesbank, Neue Eigenkapitalanforderungen nach Basel II, Monatsberichte der BB 9/2004, S. 75 ff.

² Vgl. Deutsche Bundesbank, Basel II- Die neue Baseler Eigenkapitalvereinbarung, URL: http://www.bundesbank.de/bank/bank_basel.php (17.02.2004) 2004, S. 1.

³ Vgl. Brockhaus, M., Was das neue Credit Rating für mittelständische Unternehmen bedeutet, Düsseldorf 2002, S. 33.

EK-Unterlegung von Kreditrisiken und operationellen Risiken eingegangen.

2. Basel I und seine Schwachpunkte

Basel I sieht für die Ermittlung der EK-Unterlegung bei Krediten eine Differenzierung nach Art der Schuldner vor. Es werden vier Kategorien unterschieden (Abb. 1):

Klassifizierung der Kredite/Kreditnehmer	Risiko- gewicht	Notwendige Eigenkapitalunterlegung (Risikogewicht x 8 %)
Kredite an OECD-Staaten	0%	0%
Kredite an Banken mit Sitz in einem OECD-Land	20%	1,6%
Grundpfandrechtlich besicherte Realkredite	50%	4%
Kredite an Unternehmen und alle übrigen Kunden	100%	8%

Abb. 1: Risikogewichte und Unterlegungspflicht nach Basel I (Quelle: eigene Darstellung)

Innerhalb einer Kreditnehmergruppe wird ein einheitlicher Prozentsatz für die EK-Unterlegung angewandt, d.h. die unterschiedliche Bonität des Schuldners wird nicht berücksichtigt. Dies könnte eine Bank dazu veranlassen, zu hohe Risiken einzugehen, da sie bei Unternehmen mit geringer Bonität höhere Kreditzinsen verlangen kann, aber trotzdem nicht mehr EK vorhalten muss als bei einem Kredit an ein Unternehmen mit hoher Bonität. Somit kann es zu einer „Quersubventionierung“ von hohen Risiken durch geringe Risiken kommen, die das gesamte Kreditportfolio gefährdet.⁴ Die neben den Kreditrisiken existierenden operationellen Risiken wie z.B. Betrug durch bankeigene Mitarbeiter werden in Basel I nicht explizit berücksichtigt. Ein weiterer Schwachpunkt stellt die ungenügende Berücksichtigung von Garantien und Sicherheiten zur Minderung des Kreditrisikos dar.⁵ Basel II versucht, durch ein „Drei-Säulen-Konzept“, u.a. obengenannte Schwachstellen zu beheben.

⁴ Vgl. Übelhör, M./Warns, C., Grundlagen der neuen Eigenkapitalvereinbarung, in: Basel II- Auswirkungen auf die Finanzierung, Unternehmen und Banken im Strukturwandel, 2004, S. 18-19.

⁵ Vgl. Sekretariat des Basler Ausschusses für Bankenaufsicht, Erläuternde Angaben zur Neuen Basler Eigenkapitalvereinbarung, Bank für Internationalen Zahlungsausgleich, Basel 2001, S. 12.

3. DIE DREI SÄULEN VON BASEL II

3.1 Überblick über die drei Säulen von Basel II

Basel II besteht aus drei sich gegenseitig verstärkenden Säulen, die zusammen zu einem sicheren und soliden Finanzsystem beitragen sollen.⁶ **Säule I** des neuen Baseler Akkords regelt die EK-Unterlegung von Kreditrisiken, Marktrisiken und operationellen Risiken.⁷ Die Berechnung der Mindestkapitalanforderungen ist in ihrer grundsätzlichen Systematik mit Basel I identisch. Während die EK-Unterlegung für Marktrisiken unverändert bleibt, wird die Unterlegung von Kreditrisiken neu geregelt. Zudem kommt die Unterlegung von operationellen Risiken als neuer Bestandteil hinzu. **Säule II** regelt das aufsichtsrechtliche Überprüfungsverfahren. Die nationalen Aufsichtsbehörden sollen die internen Methoden zur Risikomessung und deren Anwendung bei den Banken überwachen. **Säule III** enthält Vorschriften und Empfehlungen bezüglich der Marktdisziplin. Kreditinstitute sollen zukünftig den Marktteilnehmern durch bestimmte Veröffentlichungen mehr Einblick in ihr Risikoprofil und die EK-Ausstattung gewähren.⁸ Abbildung 2 gibt einleitend einen Überblick über die drei Säulen des neuen Baseler Akkords.

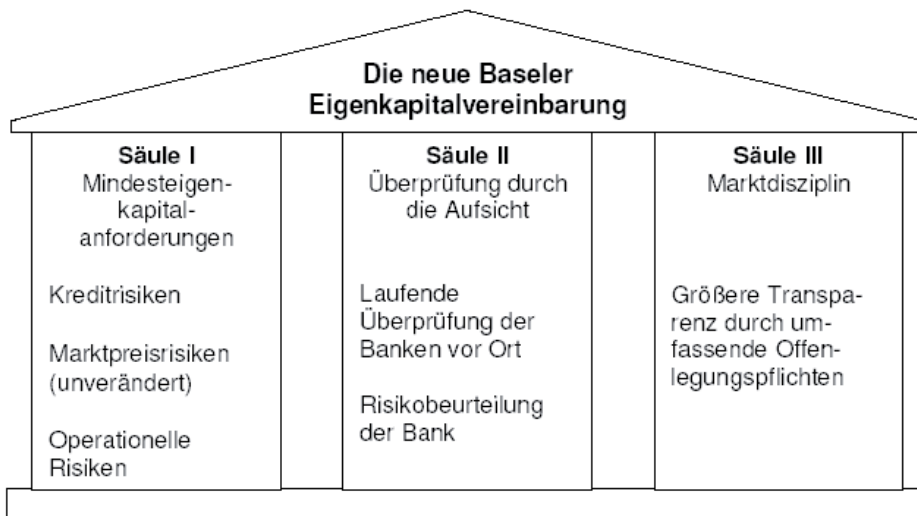


Abbildung 2: Das Grundkonzept von Basel II, (Quelle: Hartmann-Wendels T., *Basel II - Auswirkungen auf die Kreditwirtschaft*, Köln, in: *Das Wirtschaftsstudium* 04/2002, S. 528)

⁶ Vgl. Sekretariat des Basler Ausschusses für Bankenaufsicht, erläuternde Angaben zur Neuen Basler Eigenkapitalvereinbarung, Bank für Internationalen Zahlungsausgleich, Basel 2001, S. 2.

⁷ Vgl. Basler Ausschuss für Bankenaufsicht, Konsultationspapier – Die Neue Baseler Eigenkapitalvereinbarung, Bank für Internationalen Zahlungsausgleich, 2003 Tz 21

⁸ Vgl. Deutsche Bundesbank, Neue Transparenzregeln für Kreditinstitute, Monatsbericht Dt. Bundesbank 10/2005, S. 73; Taistra, G., Basel II – aktueller Stand und Auswirkungen auf die Mittelstandsfinanzierung, K f W, Frankfurt 2003, S. 1-2.

3.2 Säule I: Mindestkapitalanforderungen

3.2.1 Die Eigenkapitalunterlegung von Kreditrisiken nach Basel II

3.2.1.1 Vorbemerkungen zur Ermittlung der Eigenkapitalunterlegung

Die Vorschläge von Basel II enthalten einige grundlegende Änderungen bei der Behandlung des Kreditrisikos gegenüber Basel I und sehen die Einführung von drei Ansätzen mit steigender Risikosensitivität für die Berechnung des Kreditrisikos vor: den Standardansatz, den IRB-Basisansatz sowie den IRB-Fortgeschrittenen Ansatz. Banken und Aufsichtsinstanzen sollen hieraus denjenigen Ansatz wählen, den sie angesichts des Entwicklungsstands der Bankgeschäfte und der Infrastruktur des Finanzmarkts für am geeignetsten halten.⁹ Die drei Ansätze richten die EK-Unterlegung von Krediten an der Bonitätsbeurteilung des Schuldners durch externe oder interne Ratings aus und erlauben somit eine differenziertere Betrachtung des Kreditrisikos.¹⁰ Die Mindestkapitalanforderungen liegen wie bei Basel I bei 8%, d.h. bei einer Risikogewichtung von 100% ist EK in Höhe von 8% zu unterlegen.¹¹

$$\text{Kredithöhe} \times \text{Risikogewicht} \times 8\% = \text{Mindesteigenkapital}$$

Abbildung 3: Berechnung der Mindestkapitalanforderung (Quelle: Eigene Darstellung)

3.2.1.2 Der Standardansatz

Im Standardansatz werden Schuldner, d.h. Unternehmen, Privatpersonen, Staaten und Banken, entsprechend ihrer Bonität in verschiedene Risikokategorien eingeordnet und mit einer entsprechenden Risikogewichtung versehen.¹² Entscheidend für die Risikogewichtung, die ein Schuldner erhält, ist das Rating, das durch eine **externe** Ratingagentur¹³ vergeben wurde. Ein **Rating** ist eine Bewertung der zukünftigen Fähigkeit eines Unternehmens zur vollständigen und termingerechten Rückzahlung

⁹ Vgl. Basler Ausschuss für Bankenaufsicht, Überblick über die Neue Baseler Eigenkapitalvereinbarung, Bank für Internationalen Zahlungsausgleich, Basel 2003, Tz 11- Tz 12.

¹⁰ Vgl. Bacher, U., BWL Kompakt, 4. Auflage, Wiesbaden 2005, S. 191 ff; Übelhör, M./Warns, C., Grundlagen der neuen Eigenkapitalvereinbarung, in: Basel II- Auswirkungen auf die Finanzierung, Unternehmen und Banken im Strukturwandel, S. 22

¹¹ Vgl. Basler Ausschuss für Bankenaufsicht, Überblick über die Neue Baseler Eigenkapitalvereinbarung, Bank für Internationalen Zahlungsausgleich, Basel 2003, Tz 14.

¹² Vgl. Basler Ausschuss für Bankenaufsicht, Konsultationspapier – Die Neue Baseler Eigenkapitalvereinbarung, Bank für Internationalen Zahlungsausgleich, Basel 2003, Tz 24 – Tz 40.

¹³ Zum Beispiel Moody's, Standard & Poors, Fitch; zum Rating generell vgl. Bacher, U., BWL Kompakt, 4. Auflage, Wiesbaden 2005, S. 191 ff.

seiner Verbindlichkeiten mit dem Ziel der Ermittlung von Ausfallwahrscheinlichkeiten auf der Basis von Unternehmensanalysen. Bei der Erstellung eines Ratings kommen Hard Facts (z.B. Kontodaten, Jahresabschlussinformationen wie Renditen, Cashflow, Kapaldienstfähigkeit, Verschuldungsgrad) und Soft Facts (z.B. Management, Branchenzugehörigkeit, Informations- und Steuerungssysteme) zum Tragen.¹⁴ Die Ratingagentur muss verschiedene von den Aufsichtsbehörden definierte Kriterien erfüllen, um als geeignet anerkannt zu werden.¹⁵ Abb. 4 zeigt die Risikogewichtung für Unternehmen in Abhängigkeit vom Rating analog der Methodik von Standard & Poor's. Kredite an nicht geratete Unternehmen erhalten eine Risikogewichtung von 100%.¹⁶ Dies entspricht einer EK-Unterlegung von 8%; ein Kredit an ein Unternehmen mit hoher Bonität (z.B. AA-) muss dagegen nur mit $20\% \times 8\% = 1,6\%$ Eigenkapital¹⁷ unterlegt werden.

Rating	AAA bis AA-	A+ bis A-	BBB+ bis BB-	Unter BB-	Nicht beurteilt
Risikogewicht	20%	50%	100%	150%	100%
EK-Unterlegung	1,6%	4%	8%	12%	8%

Abbildung 4: Risikogewichtung für Unternehmenskredite, (Quelle: eigene Darstellung)

Für Unternehmen mit einem Rating unter „BB-“ gilt eine Risikogewichtung von 150% und damit die maximale EK-Unterlegung von 12%. Dieselbe Risikogewichtung ist für überfällige Kredite anzuwenden, sofern nicht bereits Einzelwertberichtigungen gebildet wurden.¹⁸ KMU mit einem Kreditvolumen von maximal 1 Mio. € und einem Umsatz von höchstens 5 Mio. €¹⁹ können von der Bank unter bestimmten Voraussetzungen in das Retail-Segment (Privatkunden) eingestuft werden, wodurch der Risikogewichtungsfaktor wie für Privatkunden auf 75% sinkt. Das entspricht einer EK-Unterlegung von 6 %. Zu den Voraussetzungen für die Zuordnung zum Retail-Segment gehört z.B. die ausreichende Granularität des Portfolios, die ein Maß für die Anzahl und Höhe der einzelnen Forderungen im Verhältnis zum Gesamtvolumen des Portfolios bezeichnet. Diese Voraussetzung kann dadurch erfüllt werden, dass die zusammengefassten Kredite an einen einzelnen Schuldner 0,2 % des gesamten für aufsichtliche Zwecke gebildeten Retailportfolios nicht

¹⁴ Vgl. Bacher, U., *BWL Kompakt*, 4. Auflage, Wiesbaden 2005, S. 191 ff; Taistra, G., *Basel II – aktueller Stand und Auswirkungen auf die Mittelstandsfinanzierung*, KfW, Frankfurt 2003, S. 4-5.

¹⁵ Vgl. Basler Ausschuss für Bankenaufsicht, *Konsultationspapier – Die Neue Baseler Eigenkapitalvereinbarung*, Bank für Internationalen Zahlungsausgleich, Basel 2003, Tz 26.

¹⁶ Vgl. Basler Ausschuss für Bankenaufsicht, *Konsultationspapier – Die Neue Baseler Eigenkapitalvereinbarung*, Bank für Internationalen Zahlungsausgleich, Basel 2003, Tz 40.

¹⁷ Das haftende Eigenkapital eines Kreditinstituts setzt sich aus dem sogenannten Kernkapital (mindestens 4 % der Risikoaktiva) und den Ergänzungskapitalien der 1.Klasse wie z.B. Genussrechtsverbindlichkeiten und der 2. Klasse wie z.B. längerfristige nachrangige Verbindlichkeiten zusammen.

¹⁸ Vgl. Basler Ausschuss für Bankenaufsicht, *Überblick über die Neue Baseler Eigenkapitalvereinbarung*, Bank für Internationalen Zahlungsausgleich, Basel 2003b, Tz 14.

¹⁹ Vgl. Taistra, G., *Basel II – aktueller Stand und Auswirkungen auf die Mittelstandsfinanzierung*, KfW, Frankfurt 2003, S. 8.

übersteigen.²⁰

Bei der Berücksichtigung von externen Ratings müssen Banken konsistent vorgehen und dürfen nicht aus den Ratings verschiedener Agenturen die für sie Vorteilhaftesten auswählen. Alternativ ist es möglich, dass Banken ganz auf die Berücksichtigung von externen Ratings verzichten und generell alle Unternehmenskredite mit 100% gewichten. Dies ist jedoch von den nationalen Aufsichtsbehörden zu genehmigen.²¹

Problematisch bei der Anwendung des Standardansatzes erscheint das alleinige Vertrauen auf die Kompetenz der Ratingagenturen, deren Anerkennung durch die Aufsichtsbehörden an äußerst vage Kriterien geknüpft wird.²² Ein weiteres Problem stellt die sehr geringe Marktdurchdringung von externen Ratings in einigen Ländern dar;²³ in Deutschland sind bisher nur wenige hundert Unternehmen extern geratet. Für KMU stellt sich zusätzlich die Problematik der hohen Kosten eines solchen Ratings.²⁴

3.2.1.3 Der IRB – Ansatz (*Internal Ratings-Based Approach*)

Im Gegensatz zum Standardansatz basiert der IRB-Ansatz auf bankinternen Ratings zur Ermittlung des Kreditrisikos, d.h. Banken können zur Bestimmung der EK-Unterlegung für einen Kredit auf ihre eigenen Schätzungen von Risikokomponenten zurückgreifen.²⁵ Diese Risikokomponenten sind die Ausfallwahrscheinlichkeit (Probability of Default, PD), die Verlustquote bei Ausfall (Loss Given Default, LGD), die ausstehenden Forderungen bei Ausfall (Exposure at Default, EAD) und die effektive Restlaufzeit (maturity, M). Im IRB-Ansatz müssen die Kreditinstitute ihre ausgereichten Kredite in folgende Forderungsklassen mit unterschiedlichen Risikocharakteristika aufteilen: Unternehmen, Staaten, Banken, Retail und Beteiligungen. Die Forderungsklasse „Unternehmen“ wird wiederum in fünf Unterklassen für Spezialfinanzierungen, wie z. B. Projektfinanzierung unterteilt.²⁶ Jeder Forderungsklasse ist eine Risikogewichtsfunktion zugeordnet, die festlegt, wie die Risikokomponenten in gewichtete Risikoaktiva und somit in eine Kapitalanforderung umgerechnet werden. Die Risikogewichtsfunktion zählt neben den oben genannten Risikokomponenten und den Mindestanforderungen an die Bank zu den

²⁰ Vgl. Basler Ausschuss für Bankenaufsicht, Konsultationspapier – Die Neue Baseler Eigenkapitalvereinbarung, Bank für Internationalen Zahlungsausgleich, Basel 2003, Tz 43 – Tz 44.

²¹ Vgl. Basler Ausschuss für Bankenaufsicht, Konsultationspapier – Die Neue Baseler Eigenkapitalvereinbarung, Bank für Internationalen Zahlungsausgleich, Basel 2003, Tz 42.

²² Vgl. Paul, S., Basel II im Überblick, in: Basel II und MaK- Vorgaben, bankinterne Verfahren, Bewertungen hrsg. v. G. Hofmann, Frankfurt 2002, S. 23.

²³ Vgl. Meister, E. / Hohl, S., Bankenaufsichtliche Anforderung an das Firmenkundengeschäft nach Basel II, in: Handbuch Firmenkundengeschäft, hrsg. v. K. Juncker / E. Priewasser, 2. Auflage, Frankfurt 2002, S. 7.

²⁴ Vgl. Werner, J., Basel II / Kreditrating – Auswirkungen auf kleine und mittlere Unternehmen, <http://www.kskostalb.de/01> (20.02.2004).

²⁵ Vgl. Basler Ausschuss für Bankenaufsicht, Konsultationspapier – Die Neue Baseler Eigenkapitalvereinbarung, Bank für Internationalen Zahlungsausgleich, Basel 2003, Tz 180.

²⁶ Vgl. Basler Ausschuss für Bankenaufsicht, Konsultationspapier – Die Neue Baseler Eigenkapitalvereinbarung, Bank für Internationalen Zahlungsausgleich, Basel 2003, Tz 183- Tz 188.

drei Kernelementen jeder Forderungsklasse.²⁷

Für viele Forderungsklassen hat der Basler Ausschuss zwei Ansätze entwickelt: den **Basisansatz** und den **fortgeschrittenen Ansatz**. Der Basisansatz legt grundsätzlich fest, dass Banken für die PD ihre eigenen Schätzungen verwenden dürfen und für die restlichen Risikokomponenten auf die bankaufsichtlichen Vorgaben zurückgreifen. Beim fortgeschrittenen Ansatz verwenden die Banken ihre eigenen Schätzungen für PD, LGD, EAD und M. Hierfür gelten jeweils Mindestanforderungen an die Banken, d.h. sie müssen in der Lage sein, die wichtigsten statistischen Bestimmungsgrößen des Kreditrisikos zu ermitteln und den Aufsichtsbehörden gegenüber zu belegen.²⁸ Bei beiden Ansätzen ist jedoch die aufsichtlich vorgegebene Risikogewichtsfunktion zur Ableitung der Kapitalanforderungen zu verwenden.²⁹ Für die Ermittlung der EK-Unterlegung gilt folgende Formel (vgl. Abb. 5):

$$\text{Eigenkapitalunterlegung} = \text{EAD} \times \text{Risikogewicht} (= \text{LGD} \times \text{PD} \times \text{M})^{30}$$

Kredite an ein Kleinunternehmen können dem Retailportfolio zugeordnet werden, wenn das Gesamtkreditvolumen geringer als 1 Mio. € ist und bei der Kreditvergabe wie im Retailsegment verfahren wird.³⁰ Zudem können Banken bei der Kreditvergabe an KMU eine größenabhängige Anpassung der Risikogewichtungsformel vornehmen.³¹ Banken müssen sich nach Ablauf einer Übergangsfrist für einen der beiden Ansätze entscheiden und können nicht für einzelne Segmente verschiedene Ansätze verwenden, d.h. ein sog. „Partial Use“ wird vom Ausschuss nicht zugelassen.³²

Im Vergleich zum Standardansatz orientiert sich der IRB-Ansatz stärker am individuellen Risikoprofil einer Bank und wird dem Ziel der risikoadäquaten EK-Anforderung gerechter,³³ nachteilig ist jedoch der hohe Aufwand für die Banken, der mit der Ermittlung der Risikokomponenten einhergeht. Fraglich ist auch, ob die meisten Banken über die notwendigen Systemvoraussetzungen und Ressourcen verfügen, um die Mindestanforderungen für den IRB-Ansatz erfüllen zu können. Ein Anreiz für die Anwendung dieses Ansatzes liegt in der verminderten EK-Anforderung.

²⁷ Vgl. Basler Ausschuss für Bankenaufsicht, Konsultationspapier – Die Neue Baseler Eigenkapitalvereinbarung, Bank für Internationalen Zahlungsausgleich, Basel 2003, Tz 213.

²⁸ Vgl. Basler Ausschuss für Bankenaufsicht, Überblick über die Neue Baseler Eigenkapitalvereinbarung, Bank für Internationalen Zahlungsausgleich, Basel 2003, Tz 31- Tz 33.

²⁹ Vgl. Basler Ausschuss für Bankenaufsicht, Konsultationspapier – Die Neue Baseler Eigenkapitalvereinbarung, Bank für Internationalen Zahlungsausgleich, Basel 2003, Tz 214.

³⁰ Vgl. Basler Ausschuss für Bankenaufsicht, Konsultationspapier – Die Neue Baseler Eigenkapitalvereinbarung, Bank für Internationalen Zahlungsausgleich, Basel 2003, Tz 199.

³¹ Vgl. Basler Ausschuss für Bankenaufsicht, Konsultationspapier – Die Neue Baseler Eigenkapitalvereinbarung, Bank für Internationalen Zahlungsausgleich, Basel 2003, Tz 242.

³² Vgl. Basler Ausschuss für Bankenaufsicht, Konsultationspapier – Die Neue Baseler Eigenkapitalvereinbarung, Bank für Internationalen Zahlungsausgleich, Basel 2003, Tz 230.

³³ Vgl. Meister, E. / Hohl, S., Bankenaufsichtliche Anforderung an das Firmenkundengeschäft nach Basel II, in: Handbuch Firmenkundengeschäft, hrsg. v. K. Juncker / E. Priewasser, 2. Auflage, Frankfurt 2002, S. 9.

3.2.1.4 Die Behandlung von Kreditsicherheiten

Um die EK-Anforderung im **Standardansatz** zu reduzieren, können Banken Sicherheiten von ihren Schuldnern hereinnehmen. Bei der Behandlung der Sicherheiten können die Banken zwischen einem einfachen Ansatz und einem umfassenden Ansatz wählen. Im einfachen Ansatz wird das Risikogewicht des Schuldners für den besicherten Teil der Forderung durch das Risikogewicht der Sicherheit substituiert (i. d. R. bis zu einer Untergrenze von 20 %). Beim umfassenden Ansatz, der eine weitergehende Anrechnung von Sicherheiten bei Forderungen erlaubt, wird der Forderungsbetrag durch den der Sicherheit beigemessenen Wert reduziert.³⁴ Beispiele für Sicherheiten können Abbildung 6 entnommen werden.

Kreditsicherheiten zur Risikominderung
<ul style="list-style-type: none"> • Bareinlagen bei der kreditgebenden Bank • Gold • Schuldverschreibungen, die von einer anerkannten externen Ratingagentur beurteilt wurden, mit einem Rating von: <ul style="list-style-type: none"> ➤ mindestens BB-, wenn sie von Staaten emittiert wurden; oder ➤ mindestens BBB-, wenn sie von anderen Stellen emittiert wurden oder ➤ mindestens A3/P3 • Schuldverschreibungen ohne Rating, sofern diese: <ul style="list-style-type: none"> ➤ von einer Bank emittiert wurden; und ➤ an einer anerkannten Börse gehandelt werden; und ➤ vorrangig zu bedienen sind • Aktien, die einem Hauptindex angehören • Investmentfonds

Abbildung 6: Kreditsicherheiten, (Quelle: Basler Ausschuss für Bankenaufsicht, Konsultationspapier – Die Neue Baseler Eigenkapitalvereinbarung, Bank für Internationalen Zahlungsausgleich 2003, Tz 116)

Der Kreis der anerkennungsfähigen Sicherheiten ist im **IRB-Ansatz** umfassender als im Standardansatz. Neben den finanziellen Sicherheiten sind im IRB-Basisansatz auch Gewerbe- und Wohnimmobilien, Forderungsabtretungen und sonstige physische Sicherheiten zugelassen. Der fortgeschrittene IRB-Ansatz beschränkt die Art der Sicherheiten grundsätzlich nicht, die Bank muss aber nachweisen, dass sie den LGD auch unter Berücksichtigung von Sicherheiten zuverlässig schätzen kann.³⁵ Banken, die den IRB-Ansatz anwenden, müssen den umfassenden Sicherheitenansatz einsetzen. Der

³⁴ Vgl. Basler Ausschuss für Bankenaufsicht, Konsultationspapier – Die Neue Baseler Eigenkapitalvereinbarung, Bank für Internationalen Zahlungsausgleich, Basel 2003, Tz 92.

³⁵ Vgl. Hartmann-Wendels, T., Basel II- Die neuen Vorschriften zur Eigenmittelunterlegung von Kreditrisiken, Heidelberg 2003, S. 71.

Kreditbetrag wird dann durch den der Sicherheit beizumessenden Wert reduziert.³⁶

3.2.2 Operationelles Risiko

Basel II definiert das operationelle Risiko als Risiko von Verlusten infolge der Unangemessenheit oder des Versagens von internen Verfahren, Menschen und Systemen oder von externen Ereignissen. Diese Definition schließt Rechtsrisiken ein, beinhaltet aber keine strategischen Risiken oder Reputationsrisiken.³⁷ Zu den operationellen Risiken zählen beispielsweise Verlustrisiken aufgrund von Computerfehlern, ungenügender Dokumentation oder Betrug.³⁸ Der Basler Ausschuss stellt das operationelle Risiko als einen wichtigen Risikofaktor für Banken dar und hat auch in diesem Bereich einen neuen regulatorischen Ansatz für die EK-Unterlegung entwickelt. Das bedeutet, dass Banken EK halten müssen, um sich gegen Verluste aus operationellen Risiken abzusichern.³⁹ Zur Berechnung der Mindestkapitalanforderungen für operationelle Risiken sieht Basel II die folgenden drei Methoden vor:

- den Basisindikatoransatz (BIA),
- den Standardansatz (STA)
- und den ambitionierten Messansatz (AMA).

Diese drei Methoden zeichnen sich durch zunehmende Komplexität und Risikosensitivität aus und sollen damit dem jeweiligen Risikoprofil einer Bank Rechnung tragen.⁴⁰ Banken, die in hohem Maße operationellen Risiken ausgesetzt sind, wie z. B. international tätige Banken, sollen einen ihrem individuellen Risikoprofil entsprechenden Ansatz verwenden. Dies wird durch die Bankenaufsicht im Rahmen der 2. Säule überprüft.⁴¹

Der **Basisindikatoransatz** stellt den einfachsten Ansatz dar und legt die EK-Anforderung anhand eines vom Ausschuss festgelegten Prozentsatzes vom durchschnittlichen Bruttoertrag in den vorangegangenen drei Jahren fest. Als Bruttoertrag wird das Zinsergebnis zuzüglich zinsunabhängiger Ertrag definiert. Abbildung 7 soll die Berechnung des Eigenkapitals

³⁶ Vgl. Bisani, H. P., Entwicklung der Kreditpreise unter Einfluss von Basel II, in: Basel II- Auswirkungen auf die Finanzierung, Unternehmen und Banken im Strukturwandel, hrsg. v. M. Übelhör / C. Wörns, Heidenau, 2004, S. 134.

³⁷ Vgl. Basler Ausschuss für Bankenaufsicht, Konsultationspapier – Die Neue Baseler Eigenkapitalvereinbarung, Bank für Internationalen Zahlungsausgleich, Basel 2003, Tz 607.

³⁸ Vgl. Sekretariat des Basler Ausschuss für Bankenaufsicht, erläuternde Angaben zur Neuen Baseler Eigenkapitalvereinbarung, Bank für Internationalen Zahlungsausgleich, Basel 2001, S. 5.

³⁹ Vgl. Basler Ausschuss für Bankenaufsicht, Überblick über die Neue Baseler Eigenkapitalvereinbarung, Bank für Internationalen Zahlungsausgleich, Basel 2003, Tz 40.

⁴⁰ Vgl. Basler Ausschuss für Bankenaufsicht, Konsultationspapier – Die Neue Baseler Eigenkapitalvereinbarung, Bank für Internationalen Zahlungsausgleich, Basel 2003, Tz 608.

⁴¹ Vgl. Basler Ausschuss für Bankenaufsicht, Konsultationspapier – Die Neue Baseler Eigenkapitalvereinbarung, Bank für Internationalen Zahlungsausgleich, Basel 2003, Tz 610.

verdeutlichen:

$$K_{BIA} = GI \cdot \alpha$$

mit:

K_{BIA} = Eigenkapitalanforderung nach dem Basisindikatoransatz

GI = durchschnittlicher jährlicher Bruttoertrag der vergangenen drei Jahre

α = 15% (der Prozentsatz wird durch den Ausschuss festgelegt, wobei das branchenweit zu verlangende Eigenkapital mit der branchenweiten Höhe dieses Indikators ins Verhältnis gesetzt wird.)

Abbildung 7: Basisindikatoransatz, (Quelle: Basler Ausschuss für Bankenaufsicht, Konsultationspapier – Die Neue Baseler Eigenkapitalvereinbarung, Bank für Internationalen Zahlungsausgleich, 2003, Tz 612)

Im *Standardansatz* werden die Tätigkeiten der Bank in acht Geschäftsfelder unterteilt und mit sogenannten Beta-Faktoren bewertet (siehe Abb. 8). Ein Betafaktor stellt einen Näherungswert für das Verhältnis zwischen branchenweiten operationellen Verlusten und den branchenweit aggregierten Bruttoerträgen für das jeweilige Geschäftsfeld dar. Als Messgröße für das mit einem bestimmten Geschäftsfeld verbundene operationelle Risiko dient ebenfalls der Bruttoertrag. Die EK-Anforderungen werden für jedes einzelne Geschäftsfeld berechnet, indem der Bruttoertrag mit den vom Ausschuss festgelegten Beta-Faktoren multipliziert wird. Die gesamte EK-Anforderung für die operationellen Risiken einer Bank ist dann die Summe des aufsichtsrechtlichen Eigenkapitalbedarfs für ihre einzelnen Geschäftsfelder.⁴² Eine Voraussetzung für die Anwendung des Standardansatzes ist, dass die Banken über angemessene Systeme zur Messung des operationellen Risikos verfügen, die den Mindestkriterien des dritten Konsultationspapiers entsprechen.⁴³

Geschäftsfeld	Beta-Faktor
Unternehmensfinanzierung/-beratung	18 %
Handel	18 %
Privatkundengeschäft	12 %
Firmenkundengeschäft	15 %
Zahlungsverkehr und Wertpapierabwicklung	18 %

⁴² Vgl. Basler Ausschuss für Bankenaufsicht, Konsultationspapier – Die Neue Baseler Eigenkapitalvereinbarung, Bank für Internationalen Zahlungsausgleich, Basel 2003, Tz 613 – Tz 617.

⁴³ Vgl. Basler Ausschuss für Bankenaufsicht, Überblick über die Neue Baseler Eigenkapitalvereinbarung, Bank für Internationalen Zahlungsausgleich, Basel 2003, Tz 46.

Depot- und Treuhandgeschäfte	15 %
Vermögensverwaltung	12 %
Wertpapierprovisionsgeschäft	12 %

Abbildung 8: Geschäftsfelder und Betafaktoren im Standardansatz, (Quelle: Basler Ausschuss für Bankenaufsicht, Konsultationspapier – Die Neue Baseler Eigenkapitalvereinbarung, Bank für Internationalen Zahlungsausgleich, 2003, Tz 617)

Abb. 9 soll die Vorgehensweise beim STA verdeutlichen. Der STA erscheint durch die Differenzierung nach Geschäftsfeldern eine genauere Bemessungsmethode als der BIA vorzugeben, jedoch stellt sich hier die Frage, ob die interne Struktur der meisten Banken diesem Schema entspricht und ohne großen Aufwand einer solchen Bewertung zugeführt werden kann.

$KSTA = \Sigma (GI1-8 \cdot \beta 1-8)$ <p>Mit:</p> <p>KSTA = Kapitalanforderung im Standardansatz</p> <p>GI1-8 = durchschnittlicher jährlicher Bruttoertrag der letzten drei Jahre, definiert wie im Basisindikatoransatz, für jedes der acht Geschäftsfelder</p> <p>$\beta 1-8$ = ein vom Ausschuss festgelegter Prozentsatz, der für jedes der acht Geschäftsfelder den Bruttoertrag ins Verhältnis setzt zum notwendigen Eigenkapital. Die Beta-Werte werden in Abbildung 8 aufgeführt.</p>
--

Abbildung 9: Eigenkapitalberechnung nach dem Standardansatz, (Quelle: Basler Ausschuss für Bankenaufsicht, Konsultationspapier – Die Neue Baseler Eigenkapitalvereinbarung, Bank für Internationalen Zahlungsausgleich, 2003, Tz 617)

Der BIA und der STA bewirken durch die Berechnung der EK-Unterlegung als Prozentsatz vom Bruttoertrag paradoxerweise eine Begünstigung derjenigen Banken, die geringere Erträge erwirtschaften. Ein qualitativ besseres Risikomanagement würde aber tendenziell zu höheren Erträgen führen und somit das Eigenkapital erhöhen.⁴⁴ Die beiden Ansätze erscheinen daher nicht zielführend.

Beim auf *internen Messverfahren beruhenden Ansatz (AMA)* müssen die Banken zur Berechnung des erforderlichen Eigenkapitals ihre internen Verlustdaten einsetzen. Der Ausschuss erwartet, dass das operationelle Risiko durchschnittlich rund 20 % der gesamten

⁴⁴ Vgl. Paul, S., Basel II im Überblick, in: Basel II und MaK-Vorgaben, bankinterne Verfahren, Bewertungen hrsg. v. G. Hofmann, Frankfurt 2002, S. 12.

Eigenkapitalanforderungen ausmachen wird.⁴⁵ Um den Standardansatz oder einen AMA nutzen zu können, muss die Bank ihrer Aufsichtsbehörde zunächst die Erfüllung folgender grundsätzlicher Anforderungen nachweisen:⁴⁶

1. Die oberste Leitungsebene ist in angemessenem Umfang aktiv in die Überwachung des Managementsystems für operationelle Risiken involviert.
2. Die Bank verfügt über ein solides Risikomanagementsystem, das vollständig umgesetzt und integriert wurde.
3. Die Bank verfügt über ausreichende Ressourcen zur Umsetzung des Ansatzes in den wichtigsten Geschäftsfeldern und in den Kontroll- und Revisionsbereichen.

Das interne Messsystem einer Bank muss zudem nachweisbar in der Lage sein, unerwartete Verluste basierend auf einer Kombination von internen und externen Verlustdaten, Szenarioanalysen, bankspezifischem Geschäftsumfeld und internen Kontrollfaktoren zu schätzen. Die Bankenaufsicht wird den AMA einer Bank eine Zeit lang beobachten, bevor dieser zur Ermittlung der regulatorischen Kapitalanforderungen verwendet werden darf.

⁴⁷ Zur Ermittlung der Risikokennzahl können folgende Verfahren angewendet werden: Interner Bemessungsansatz, Verlustverteilungsansatz und Scorecardansatz.⁴⁸ Langfristiges Ziel des Baseler Ausschusses ist eine generelle Verwendung des AMA.⁴⁹

3.3 Säule II: Aufsichtliches Überprüfungsverfahren

Das aufsichtliche Überprüfungsverfahren soll in erster Linie sicherstellen, dass Banken über ein angemessenes Eigenkapital für alle mit ihren Geschäften verbundenen Risiken verfügen. Gleichzeitig sollen sie darin bestärkt werden, bessere Risikomanagementverfahren für die Überwachung und Steuerung ihrer Risiken zu entwickeln und anzuwenden.⁵⁰ Hinsichtlich der Überprüfung von Banken hat der Ausschuss vier zentrale Grundsätze aufgestellt.

⁴⁵ Vgl. Sekretariat des Baseler Ausschusses für Bankenaufsicht, erläuternde Angaben zur Neuen Basler Eigenkapitalvereinbarung, Bank für Internationalen Zahlungsausgleich, Basel 2001, S. 5.

⁴⁶ Basler Ausschuss für Bankenaufsicht, Konsultationspapier – Die Neue Basler Eigenkapitalvereinbarung, Bank für Internationalen Zahlungsausgleich, 2003, Tz 620.

⁴⁷ Vgl. Basler Ausschuss für Bankenaufsicht, Konsultationspapier – Die Neue Basler Eigenkapitalvereinbarung, Bank für Internationalen Zahlungsausgleich, Basel 2003, Tz 620-Tz 622.

⁴⁸ Vgl. Paul, S., Basel II im Überblick, in: Basel II und MaK- Vorgaben, bankinterne Verfahren, Bewertungen hrsg. v. G. Hofmann, Frankfurt 2002, S. 13-14.

⁴⁹ Vgl. Übelhör, M./Warns, C., Grundlagen der neuen Eigenkapitalvereinbarung, in: Basel II- Auswirkungen auf die Finanzierung, Unternehmen und Banken im Strukturwandel, S. 33

⁵⁰ Vgl. Basler Ausschuss für Bankenaufsicht (Vgl. Basler Ausschuss für Bankenaufsicht, Konsultationspapier – Die Neue Basler Eigenkapitalvereinbarung, Bank für Internationalen Zahlungsausgleich, Basel 2003, Tz 678-Tz 679.

- **Grundsatz 1:** Banken sollten über ein Verfahren zur Beurteilung ihrer angemessenen Eigenkapitalausstattung im Verhältnis zu ihrem Risikoprofil sowie über eine Strategie für den Erhalt ihres Eigenkapitalniveaus verfügen.⁵¹
- **Grundsatz 2:** Die bankinterne Vorgehensweise bei der Beurteilung der angemessenen Eigenkapitalausstattung und die Einhaltung dieser Methodik sollen durch die Aufsichtsbehörden überprüft werden, um gegebenenfalls Maßnahmen zu ergreifen, wenn die Ergebnisse der Überprüfung nicht zufriedenstellend sind.⁵²
- **Grundsatz 3:** Die Aufsichtsinstanzen können von den Banken fordern, dass sie über eine höhere Eigenkapitalausstattung als die aufsichtsrechtlich geforderte Mindesteigenkapitalausstattung verfügen, sofern sie mit der bankinternen Risikoabschätzung und Kapitalallokation nicht zufrieden sind.⁵³
- **Grundsatz 4:** Um zu verhindern, dass das Eigenkapital unter die dem Risikoprofil der Bank entsprechende Mindestausstattung fällt, sollten die Aufsichtsbehörden frühzeitig eingreifen. Wenn das Eigenkapital nicht erhalten oder nicht wieder ersetzt wird, sollten die Aufsichtsbehörden schnelle Abhilfe fordern.⁵⁴

3.4 Säule III: Marktdisziplin

Die dritte Säule „Marktdisziplin“ soll die Mindestkapitalanforderungen der Säule I und den aufsichtlichen Überprüfungsprozess der Säule II ergänzen. Die Marktdisziplin soll durch die Einführung von Veröffentlichungspflichten⁵⁵ verstärkt werden. Die Marktteilnehmer sollen hierdurch in die Lage versetzt werden, Kerninformationen über das Eigenkapital, die Risikopositionen, die Risikomessverfahren und - daraus abgeleitet - die Angemessenheit der EK-Ausstattung der Bank zu beurteilen.⁵⁶ Gegenstand der Berichterstattung ist hierbei nur die oberste Konsolidierungsebene der betreffenden Bankengruppe.⁵⁷ Die Veröffentlichungen sind in der Regel halbjährlich vorgesehen; eine Ausnahme bilden bspw. qualitative Angaben über Zielsetzung und Verfahren des

⁵¹ Vgl. Basler Ausschuss für Bankenaufsicht, Konsultationspapier – Die Neue Baseler Eigenkapitalvereinbarung, Bank für Internationalen Zahlungsausgleich, Basel 2003, Tz 683.

⁵² Vgl. Basler Ausschuss für Bankenaufsicht, Konsultationspapier – Die Neue Baseler Eigenkapitalvereinbarung, Bank für Internationalen Zahlungsausgleich, Basel 2003, Tz 703.

⁵³ Vgl. Basler Ausschuss für Bankenaufsicht, Konsultationspapier – Die Neue Baseler Eigenkapitalvereinbarung, Bank für Internationalen Zahlungsausgleich, Basel 2003, Tz 714.

⁵⁴ Vgl. Basler Ausschuss für Bankenaufsicht, Konsultationspapier – Die Neue Baseler Eigenkapitalvereinbarung, Bank für Internationalen Zahlungsausgleich, Basel 2003, Tz 716.

⁵⁵ Vgl. hierzu: Deutsche Bundesbank, Neue Transparenzregeln für Kreditinstitute, Monatsbericht Dt. Bundesbank 10/2005, S. 73.

⁵⁶ Vgl. Basler Ausschuss für Bankenaufsicht, Konsultationspapier – Die Neue Baseler Eigenkapitalvereinbarung, Bank für Internationalen Zahlungsausgleich, Basel 2003, Tz 758.

⁵⁷ Vgl. Basler Ausschuss für Bankenaufsicht, Konsultationspapier – Die Neue Baseler Eigenkapitalvereinbarung, Bank für Internationalen Zahlungsausgleich, Basel 2003, Tz 771.

Risikomanagements und das interne Berichtswesen, die nur jährlich vorzunehmen sind.⁵⁸ Die Berichterstattung gliedert sich in vier Kategorien und umfasst sowohl qualitative als auch quantitative Angaben zu folgenden Punkten:

- Anwendung der Eigenkapitalvorschriften
- Eigenkapitalstruktur
- Angemessenheit der Eigenkapitalausstattung
- Eingegangene Risiken und ihre Beurteilung (z.B. Kreditrisiko, Risiken aus Beteiligungen, Marktrisiko, operationelle Risiken, Zinsänderungsrisiko im Anlagebuch).

4. DIE AUSWIRKUNGEN VON BASEL II AUF DAS KREDITGESCHÄFT MIT KMU

4.1 KMU und ihre Bedeutung für die deutsche Volkswirtschaft

99,7% der deutschen Unternehmen hatten im Jahr 2001 weniger als 500 Beschäftigte und einen Umsatz von weniger als 50 Mio. €. ⁵⁹ Gemäß der Definition des IfM Bonn zählen diese Unternehmen zu den KMU, deren Bedeutung für die deutsche Wirtschaft allein an der Zahl der Beschäftigten deutlich wird: KMU beschäftigen ca. 70 % aller Arbeitnehmer sowie ca. 80 % aller Auszubildenden und erwirtschaften ca. 57 % der Bruttowertschöpfung in Deutschland. ⁶⁰ Abbildung 10 soll die quantitative Bedeutung der KMU für Deutschland noch einmal veranschaulichen.

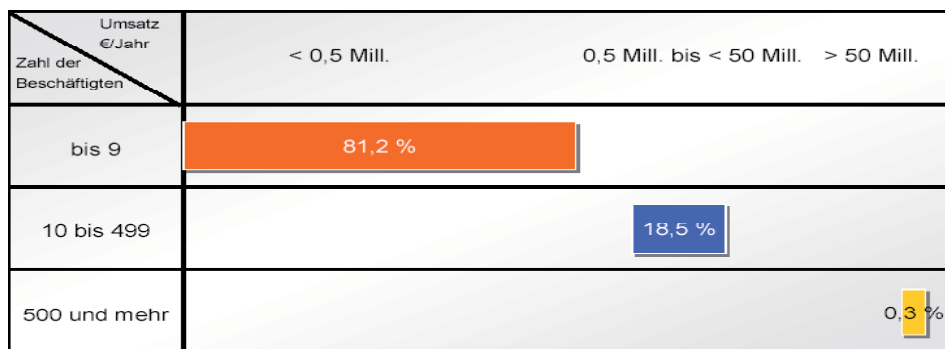


Abbildung 10: Quantitative Bedeutung des deutschen Mittelstands, (Quelle: Kayser, G., Was sind eigentlich kleine und mittlere Unternehmen (KMU)?, Institut für Mittelstandsforschung (IfM) Bonn, 2003 URL: <http://www.ifm-bonn.org> (01.03.2004), 2003, S. 3)

⁵⁸ Vgl. Basler Ausschuss für Bankenaufsicht, Konsultationspapier – Die Neue Baseler Eigenkapitalvereinbarung, Bank für Internationalen Zahlungsausgleich, Basel 2003, Tz 767.

⁵⁹ Vgl. Kayser, G., Was sind eigentlich kleine und mittlere Unternehmen (KMU)?, Institut für Mittelstandsforschung (IfM) Bonn, 2003 URL: <http://www.ifm-bonn.org> (01.03.2004) 2003, S. 2-3.

⁶⁰ Vgl. Wallau, F. (2001), S. 3-4

4.2 Auswirkungen von Basel II auf das Kreditgeschäft mit KMU

Der Mittelstand ist die tragende Säule der deutschen Wirtschaft. Um diese Funktion auch in Zukunft zu erfüllen, ist die Sicherung der Finanzierung unabdingbar.⁶¹ Laut einer Studie der Universität Marburg finanzieren sich 80% der KMU über Kredite der Hausbank.⁶² Die ersten beiden Vorschläge des Baseler Ausschusses für Basel II ließen eine wesentliche Verschärfung der EK-Unterlegung von Krediten an KMU erwarten, was für den Mittelstand eine Verschlechterung der Kreditkonditionen oder die Verknappung von Krediten bedeutet hätte.⁶³ Mit dem dritten Konsultationspapier sind diese Befürchtungen jedoch gegenstandslos geworden.⁶⁴ Wie Abb. 14 zeigt, liegt die Bonität der meisten KMU zwischen BBB+ und BB-. Kredite an Unternehmen mit einem Rating in diesem Bereich (oder ohne externes Rating) müssen gemäß dem Standardansatz mit 8% EK unterlegt werden. Damit ergibt sich für diese Kredite durch Basel II keine höhere EK-Unterlegung und somit ist keine Verschlechterung der Kreditkonditionen zu erwarten. KMU mit einem Rating von unter BB- müssen jedoch aufgrund der 12%igen EK-Unterlegung mit schlechteren Kreditkonditionen rechnen, besser als BBB+ geratete Unternehmen werden allerdings von einer verringerten EK-Unterlegung der Bank profitieren.

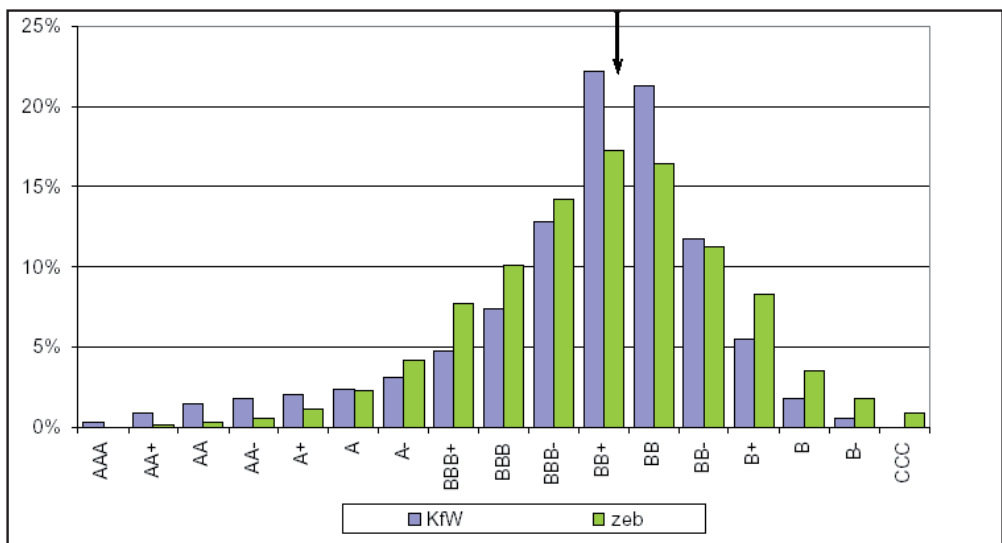


Abbildung 11: Die Bonität von KMU, (Quelle: Taistra, G. Rating und Unternehmensfinanzierung nach Basel II, KfW, Pimm Meeting, Danzig, URL: <http://www.kfw.de/DE/Research/Sonderthem68/>)

⁶¹ Vgl. Bös, D. /Pfaffenholz, G., Mittelstandsfinanzierung unter neuen Vorzeichen - Strukturwandel statt Gefährdung, Bonn, URL: <http://www1.wiwi.uni-bonn.de/users/fiwi/www/papers/pps/Basel2> (17.02.2004) 2003, S. 1-2.

⁶² Vgl. Fridrich, A. (2002), S. 3

⁶³ Vgl. Eppler, K., Basel II – auch eine Chance für den Mittelstand, in: Ratio, Die Zukunft der Mittelstandsfinanzierung – Rating und die Folgen, 8. Jg., Nr. 3, 2002, S. 8.

⁶⁴ Vgl. Steiner, M./ Mader, W./Starbatty, N., Aktuelle Entwicklungen in der Unternehmensfinanzierung, in: Finanz Betrieb, Heft 9 2003, S. 514.

Im IRB-Ansatz kommt es ebenfalls zu einer Spreizung der Kreditkonditionen. Wie Abb. 11 zeigt, müssen bspw. für Kredite an Unternehmen mit einer PD von 2% und einer LGD von 45% mehr als 8% EK unterlegt werden. Dies gilt jedoch nur für KMU mit über 5 Mio. € Umsatz und mehr als 1 Mio. € Kreditvolumen und betrifft damit nur 3% der Unternehmen. Für Unternehmen mit besseren Kennzahlen würde die EK-Unterlegung entsprechend sinken.

Mittelstandssegment	Umsatzklasse in Mio. €	Kreditvolumen in Mio.€	Anteil am Unternehmensbestand	Eigenkapitalanforderungen (bei PD 2 %)		Eigenkapitalentlastung bzw. -belastung	
				Standardansatz	IRB-Ansatz (LGD 45%)	Standardansatz	IRB-Ansatz (LGD 45%)
Gehobener Mittelstand (Corporate Segment)	≥ 50	-	< 1%	12% (externes Rating < BB-)	10,06%	+ 50% externes Rating < BB-)	+ 25,8%
				8% ohne Rating		0% ohne Rating	
						+ 50%	
Mittlerer Mittelstand (Corporate Segment)	< 50	≥ 1	= 3%	12% (externes Rating < BB-)	Umsatz z.B. 5 Mio. € 8,2%	externes Rating < BB-)	Umsatz z.B. 5 Mio. € + 2,5%
				8% ohne Rating		0% ohne Rating	
						+ 50%	
Unterer Mittelstand (Retail Segment)	-	< 1	= 95%	6%	5,54%	-25%	-30,8%

Abbildung 12: Segmentierung des Mittelstands nach Unternehmensgröße, (Quelle: Paul, S., Basel II im Überblick, in: Basel II und MaK-Vorgaben, hrsg. v. G. Hofmann, Frankfurt 2002, S. 27)

95% der KMU wären demnach mit einem Kreditvolumen von unter 1 Mio. € und einem Umsatz von unter 5 Mio. € dem Retail-Segment zuzuordnen. Hierdurch sinkt das Risikogewicht im Standardansatz von 100% auf 75%⁶⁵ und die EK-Unterlegung verringert sich von 8% auf 6%.⁶⁶ Im IRB-Ansatz kommt es auch bei Retailkrediten auf die Ratingeinstufung durch die kreditgebende Bank an. Laut einer Studie der Deutschen Bundesbank liegt die PD bei kleinen Unternehmen bei 2%, was einem S&P-Rating von BB- entspricht. Bei einer unterstellten LGD von 45% würde sich eine EK-Unterlegung von 5,54% ergeben,⁶⁷ die deutlich unter den Anforderungen von Basel I (= 8%) liegt. Zudem erlaubt der IRB-Ansatz bei Krediten an KMU mit bis zu 50 Mio. € Umsatz eine Minderung der vorgeschriebenen EK-Unterlegung um bis zu 20% gegenüber dem Unternehmenssegment. Die Entlastung soll mit zunehmender Unternehmensgröße abnehmen und im Durchschnitt 10% erreichen.⁶⁸ Sowohl im IRB-Ansatz als auch im Standardansatz ist eine Absenkung der Risikogewichte durch die Anerkennung von

⁶⁵ Vgl. Taistra, G., Basel II – aktueller Stand und Auswirkungen auf die Mittelstandsfinanzierung, KfW, Frankfurt 2003, S. 10.

⁶⁶ Vgl. Taistra, G., Basel II – aktueller Stand und Auswirkungen auf die Mittelstandsfinanzierung, KfW, Frankfurt 2003, S. 16.

⁶⁷ Vgl. Paul, S., Basel II im Überblick, in: Basel II und MaK- Vorgaben, bankinterne Verfahren, Bewertungen hrsg. v. G. Hofmann, Frankfurt 2002, S. 25-28.

⁶⁸ Vgl. Taistra, G., Basel II – aktueller Stand und Auswirkungen auf die Mittelstandsfinanzierung, KfW, Frankfurt 2003, S. 10.

mittelstandsspezifischen Sicherheiten möglich.⁶⁹

Wie sich die Kreditkonditionen an KMU aufgrund Basel II entwickeln werden, kann derzeit nur abgeschätzt werden. Wenn eine Bank für einen Kredit mehr EK unterlegen muss, wird sich dies wahrscheinlich auf die Finanzierungskonditionen des Kreditnehmers auswirken. In jedem Falle sind die Banken aber durch Basel II gezwungen, interne Ratingsysteme einzuführen, die einerseits eine genauere Kalkulation von Risikoprämien erlauben, andererseits aber auch Kosten verursachen. Es ist nicht auszuschließen, dass diese Kosten von den Banken auf die Kreditzinsen umgelegt werden und KMU stärker belasten.⁷⁰ Auch auf Seiten der KMU können aufgrund von Basel II Mehrkosten für den Aufbau interner Controllingsysteme entstehen, wenn Unternehmensdaten für die Erstellung eines bankinternen Ratings zur Verfügung gestellt werden müssen. Dies kann allerdings als eine Chance für das Unternehmen verstanden werden, Schwachstellen zu entdecken und das eigene Risikomanagement voranzutreiben.⁷¹

5. ZUSAMMENFASSUNG UND FAZIT

Die neue Baseler Eigenkapitalvereinbarung, kurz Basel II genannt, sieht einige Veränderungen gegenüber Basel I vor, mit dem Ziel, die Stabilität und Sicherheit des internationalen Bankensystems zu erhöhen. Der Baseler Ausschuss für Bankenaufsicht hat hierzu ein „Drei-Säulen-Konzept“ entwickelt, das die EK-Unterlegung von Risiken, die aufsichtliche Überprüfung der Kreditinstitute und die Marktdisziplin mittels Offenlegungspflichten regelt. Der Kernpunkt ist dabei eine auf Bankenseite risikoadäquatere Unterlegung der Kreditrisiken und der operationellen Risiken mit EK. Bei der Unterlegung der Kreditrisiken können die Kreditinstitute zwischen dem Standardansatz und dem IRB-Ansatz wählen, wobei der Baseler Ausschuss den IRB -Ansatz befürwortet und dementsprechende Anreize setzt. Der Standardansatz orientiert sich an der heutigen Regelung, berücksichtigt jedoch verstärkt die Bonität des Kreditnehmers. Hierfür werden externe Ratings berücksichtigt, wobei die EK-Anforderung bei guter Bonität auf bis zu 1,6% der Kreditsumme sinken kann. Beim IRB-Ansatz wird jeder Kreditnehmer einem bankinternen Rating unterzogen. Der Ausschuss sieht hier zwei Ansätze unterschiedlicher Komplexität vor, den IRB-Basisansatz und den IRB-Fortgeschrittenen-Ansatz. Letztendlich ist das Ergebnis der Bonitätsanalyse für die Höhe des Prozentsatzes der EK-Hinterlegung maßgeblich. Die Hereinnahme von Sicherheiten kann in beiden Ansätzen die EK-Unterlegung mindern. Basel II sieht zudem die EK-Unterlegung von operationellen Risiken vor und erlaubt hierfür drei verschiedene Ansätze zur Berechnung der Mindestkapitalanforderungen. Die von Basel II gestellten Anforderungen an die

⁶⁹ Vgl. Deutsche Bundesbank, Ergebnisse der dritten Auswirkungsstudie zu Basel II – Länderbericht Deutsch l a n d , Frankfurt am Main 2003, S. 24

⁷⁰ Vgl. Taistra, G., Basel II – aktueller Stand und Auswirkungen auf die Mittelstandsfinanzierung, KfW, Frankfurt 2003, S. 17-18.

⁷¹ Vgl. Epple, K., Basel II – auch eine Chance für den Mittelstand, in: Ratio, Die Zukunft der Mit standsfinan-zierung – Rating und die Folgen, 8. Jg., Nr. 3, 2002, S. 8.

Banken stellen sich insgesamt sehr komplex, teuer in der Einführung und als aufwendig dar, was die Umsetzung dieser Regelungen erschweren dürfte.

Die Auswirkungen von Basel II auf KMU lassen sich derzeit nur abschätzen. Während die ersten beiden Konsultationspapiere zu Basel II eine Verschlechterung der Kreditversorgung und –konditionen befürchten ließen, sieht das dritte Konsultationspapier nun explizite Erleichterungen für die EK-Unterlegung von Krediten an KMU vor. Erleichterungen gibt es insbesondere für kleine Unternehmen mit bis zu 5 Mio. € Umsatz und mit einem Kreditvolumen von unter 1 Mio. €. Kredite an diese Unternehmen können dem Retailportfolio der Banken zugeordnet werden und müssen mit weniger EK unterlegt werden als Unternehmenskredite, die nicht dem Retailportfolio zugeordnet werden können.

Eine „Kreditklemme“ ist daher aufgrund von Basel II nicht zu erwarten. Inwiefern Banken allerdings durch Basel II bedingte Kosten auf KMU-Kredite umlegen und sich diese Kredite verteuern, kann derzeit nicht abgeschätzt werden. Vielmehr ist derzeit zu beobachten, dass sich deutsche Grossbanken zunehmend aus der Finanzierung von KMU zurückziehen und diese Unternehmen gezwungen sind, Finanzierungsalternativen zu suchen.⁷² Für diese Entwicklung Basel II verantwortlich zu machen, wäre sicher falsch. Ein Problem von Basel II könnte jedoch eine mögliche prozyklische Wirkung der Regelungen werden. Die von der Deutschen Bundesbank veröffentlichte „QIS 3-Studie“ konnte entsprechende Bedenken nicht ausräumen.⁷³

⁷² Vgl. Steiner, M./Mader, W./Starbatty, N., Aktuelle Entwicklungen in der Unternehmensfinanzierung, in: Finanz Betrieb, Heft 9 2003, S. 513.

⁷³ Vgl. Deutsche Bundesbank, Ergebnisse der dritten Auswirkungsstudie zu Basel II – Länderbericht Deutschland, Frankfurt am Main 2003, S. 32

PROMISSORY NOTE AS PAYMENT SECURITY INSTRUMENT IN THE REPUBLIC OF CROATIA *

Branimir Marković, Professor
Branko Matić, Professor
Domagoj Karačić, Assistant
Faculty of Economics in Osijek

SUMMARY

In the modern world, a legal framework has been set up and a market regulator has been defined so that payment as a relation between the debtor and creditor can not be put in question regarding the realization of their integral rights. Countries in transition, including Croatia (the Republic of Croatia), are still trying to define not only the short-term, but also the long-term regulators that would clarify all open questions both in the economic and in the legal segment. Promissory note as the payment security instrument has in practice become operative only through a consistent use of Distraint law. A theoretical and an implementation mechanism merge into one functional mechanism, on the basis of which it can be said that in this segment the Republic of Croatia has truly overcome the transitional barriers.

Key words: promissory note, collection of claims, payment insurance, blank promissory notes, Distraint procedure, Distraint law.

1.0. INTRODUCTION

The present-day economic situation in the Republic of Croatia has been conditioned by numerous difficulties that arise in the billing system between business entities within the economic system. Because of their inability to collect claims, numerous companies acting as creditors must consider different forms of protection of their demands through additional elements of insurance of payment, because the rising trend of financial insolvency that is especially present among the small and medium businesses in the Republic of Croatia.

Standard payment security instruments that appear in the creditors' claims charging process are: security right on movables and rights, blank bills of exchange and no-

* The presented results are the outcome of the following projects: 1. Bank System in the Financing of Polycentric Development (No. 010-0102290-1284), 2. Financing of Local and Regional Self-Government (No. 010-0102290-2446) and 3. Restructuring of Companies in Business Distress (No. 010-0102290-2292), conducted with the support of the Ministry of Science, Education and Sports of the Republic of Croatia

negotiable checks, solidary debtors and guarantors, cessions or assignments, declaration about the consent for the confiscation of salary, agreement declaration about the payment of immediate liabilities from all accounts that the business entity has in the bank, the agreement authorization for the bearing of order of payment and the common and blank promissory notes. Every insurance instrument has, depending on the form and manner of use, certain specific characteristics, in other words, it is either presented as a payment security instrument, or has characteristics of an agreement, or may be determined as a security. As one of the elements of payment security instruments, there is also the promissory note (note of hand and blank note). Promissory notes as means of insurance also have important role in the domain of protection of the insurance of creditor's rights in the collection of outstanding debts, because the process of collection of outstanding debts is resolved in out-of-court procedure, which significantly reduces the collection period, but also reduces all sorts of costs that may emerge (today the Distraint law is more efficient compared to ordinary litigation). This payment security instrument has been introduced as a formal legal procedure that should provide faster, simpler and more efficient reaction to the processes of realization of creditors' claims.

2.0. CHARACTERISTICS OF THE PROMISSORY NOTE

Promissory note is defined as the classic form of written document issued by the debtor, carrying his signature, the stated object of confiscation and the time by which the note is due, and it gives the creditor the right to charge claims, by way of confiscating all debtor's accounts that he has with legal persons dealing with payment transactions, and by transferring the money from these accounts directly to the creditor in a way determined by this declaration that must be verified by a notary public.

The initial definition explaining the concept of promissory note is the one in the Distraint Law, adopted and published in the Official Gazette (Narodne novine – NN) no. 57/96, Art. 183, section 1. Promissory note is not specifically mentioned as a term, but in this case the concept of "seizure of account with the consent of the debtor" is defined, which is essentially similar to the actual present-day definition of promissory note. It is said that:

The debtor can give his consent through declaration verified by a notary public that his account with a bank or other legal person dealing with payment transactions may be seized for the purpose of payment of creditor's claims and that the money from this account, according to his declaration included in this document, are to be directly transferred from that account to the creditor

Promissory note as a payment security instrument differs from other payment instruments. It provides the creditor with a better position and a more efficient realization

of his rights on claims, partly also because the implementation of the Distraint Law has started functioning at last. What makes the instrument of promissory note specific is that it has a multiple nature:

- 1.) *promissory note as security* – it is a known fact that, unlike the promissory note, securities have no classic document form; in this context it can be concluded that the promissory note belongs to traditional securities.
- 2.) *formality of the promissory note* – as a strictly formal legal instrument, it is regulated by law.
- 3.) *functional determination of the promissory note* - irrefutably enables the creditor to fulfill his rights.
- 4.) *abstractness of the promissory note* - in the promissory note the real nature of the business and legal relation between the creditor and the debtor is not specified.
- 5.) *promissory note as Distraint proposal* – the creditor will charge his claim coercively, there is no need for long-lasting court proceedings.

3.0. KINDS OF PROMISSORY NOTES

There are two kinds of promissory notes which are identical in their content, whereby blank promissory notes are defined by the Supplementary Law on the Distraint Law Art. 183, section 1, published in NN no. 29/99, while the common promissory note has not been defined by any legal act and it need not be issued on a prescribed form, so that in practice, the term and the form regulated by law are more frequently used.

It should be pointed out that the form of a common promissory may be written by hand and composed by the debtor himself, whereas a blank promissory note may be issued only on the form prescribed by the Book of Regulations², and the form may be obtained in free sale. In practice, common promissory note is most often used by the debtor who is a physical person, because physical persons as debtors are not allowed to issue blank promissory notes.

Both kinds of promissory notes are similar in content, because, in the end, they must have the effect of a valid writ of execution, they must contain the designation of the acceptor's account and they must contain all required elements in order to be legally valid in the framework of fulfilling the institute as the instrument of insurance.

Blank promissory note differs from the common promissory note in so far that in the blank promissory note, when it is issued, neither the person of the creditor, nor the

² Pravilnik o obliku i sadržaju bjanko zadužnice (Book of Regulations on the Form and Content of a Blank Promissory Note), NN no. 107/99, no. 135/99, no. 136/05.

amount of claims owed by the debtor need be stated. Such principle can have undesired consequences for the issuer of the promissory note, so that the Law on Corporations (v. NN no. 111/93 to 118/03) has more clearly regulated that only tradespersons may issue blank promissory notes. Since the Distraint Law has not clearly specified which tradespersons these are in the legal sense, we can assume that the blank promissory notes can be issued by companies and sole proprietors. However, following the regulations and the implementation of the Distraint Law in the economic system of collecting claims, the same may also apply for a craftsman, which means that a craftsman who is a debtor is permitted to issue a blank promissory note.

Unlike the common promissory note, the blank promissory note contains a specified amount of claims that may be issued only up to the highest prescribed rate, which is stated in Remark no.1 on the pattern of a blank promissory note, where the following amounts of money are listed: up to 5,000.00 HRK, up to 10,000.00 HRK, up to 50,000.00 HRK, up to 100,000.00 HRK, up to 500,000.00 HRK or up to 1,000,000.00 HRK.

3.1. Common Promissory Note

Common promissory note is defined by Art. 183, section 1 of the Distraint Law as document bearing the debtor's signature and verified by the notary public, a document by which the debtor gives his consent regarding the confiscation of one or more debtor's accounts, through which the claims of a determined creditor are collected and settled. According to Art. 183, section 2 of the Distraint Law it is possible to subsequently register a guarantor payer on the promissory note or in additional documents accompanying the promissory. The guarantor payer gives the identical written declaration consistent with the declaration of the first debtor, where the guarantor answers to the creditor for the whole commitment solidarily with the debtor.

If the written document does not contain the expression "common" but only "promissory note", one must keep in mind that it is still a common promissory note, because blank promissory note has been defined as a legitimate institute.

In respect to the fact that the common promissory note may be composed by the debtor himself, the debtor must take into account that the common promissory note contains the following elements:

1. description of debtor's account(s) to be confiscated – specified or all accounts that the debtor has in a commercial bank or in the Financial Agency (FINA).
2. description of the monetary claims that are being confiscated – it is very important

- to specify the correct amount of claims, the interests (if they have been determined between the debtor and the creditor) and maturity of the claims, in order to avoid possible misunderstandings relating to the date of activation of the promissory note.
3. description of the debtor's consent - declaration in the form: *I give my consent...* or *I agree...*
 4. data about the issuer – first name and family name of the debtor, his JMBG (Unique Master Citizen Number), his residence or if the debtor is a company, the company's headquarters and its MB (Master Number)
 5. data about the authorized person – data which are filled in identically as for the issuer
 6. description of the place and date of issuing of the common promissory note – the usual integral part of every legal document.

3.2. Blank Promissory Note

Blank promissory note has been regulated and defined by Art. 183a sections 1, 2, 3 and 4. Blank promissory note is defined as the document bearing the verified signature of the debtor tradesperson, by which he gives the consent for the payment of claims, but the amount of which may be subsequently added to the description of monetary claims which are being confiscated from the account held by the debtor in a merchant bank or FINA. According to the debtor's verified declaration, assets can be transferred to the creditor that has been determined in the document or that can be subsequently specified.

In contracting a blank promissory note as a legal relation by which conditions of collecting claims are additionally insured, the participants should precisely determine which claim is insured by means of a blank promissory note and under which conditions, because this will contribute to greater legal security and it will directly reduce the possibility of objection in the event of misunderstanding. It often happens in practice that the same participants engage in more than one business activities, and that claims are insured by means of blank promissory notes. In such cases, promissory notes can be marked with ordinal numbers for the purpose of simpler tracking and registering of new circumstances.

Notary public has the duty to verify the debtor's signature, and check it upon the insight into the identity card and into the excerpt from the court register of the legal person's or society's representative i.e. of the person authorized for representation and issuing of blank promissory notes. Blank promissory notes are composed and issued in duplicate; the creditor takes the original of the blank promissory note, whereas the copy remains with the notary public. The original and verified blank promissory held by the creditor bears the original signature of the debtor, and serves as the security and cover for the realization of the right to collect claims.

The blank promissory note does not contain any description of the business activity on which the insurance of the creditor's claim is based, but the establishment of the existence of a claim and of its amount is based on the declaration of authority, according to which the declaration on the promissory note and receipts from commercial banks or FINA are the only valid and admissible instruments of insurance of claims.

3.2.1. Contents of a Valid Blank Promissory Note

1. denotation of one of the denominations, i.e. the highest sum to which the promissory note may be charged (according to note no. 1 at the bottom of the 1st page of the form).
2. obligatory registration of the data about the debtor – name of the firm, its headquarters and MB
3. prior to submitting the promissory note for payment, the creditor will write down the specific amount of his claim (it must be one of the denominations according to section 1 of the contents) and the maturity date of the claim.
4. authorization by which the debtor gives his consent for seizure of the accounts that he has by with the legal persons dealing with transaction payment operations.
5. it is necessary to specify data about the creditor, which can be done subsequently by the creditor prior to bearing the promissory note for payment, or by the debtor in the course of issuing of the promissory note.
6. the issuer, or the representative of the issuer, must sign the promissory note and bring the signed promissory note to the notary public for verification.

4.0. PAYMENT OF THE PROMISSORY NOTE

There is regular collection of payment of the promissory note and payment of the promissory note through legal proceeding. When the debtor who issued the promissory note does not voluntarily pay the full or partial amount of the creditor's claims, the creditor who satisfies formal conditions may submit a claim to the commercial bank or FINA and thus realize his rights that have been regulated with the consent of the debtor in the verified promissory note. If the assets are not found on the accounts that have been consensually given to the creditor for the payment of claims, or if they are not sufficient to settle the claim in full, then a problem arises, and in that case the payment of the promissory note can and must be activated through court procedure.

4.1. Regular Payment

The regular payment procedure takes place when the debtor does not voluntarily fulfill his commitment upon the maturity of claim, and in that case the creditor who satisfies the formal conditions according to the promissory note is authorized to activate the promissory note for payment to the legal person dealing with payment transactions (commercial banks or FINA). If the maturity of claims has been specified in the promissory note, the creditor must deliver the promissory note before the maturity date; if the maturity of claim has not been specified, the maturity date will be the day or date when the creditor has delivered the promissory note to the commercial bank or FINA.

The Distraint Law explicitly prescribes that the promissory notes must be delivered in the reception office of the legal person where the payment transactions take place, via registered mail with return receipt or through the notary public.

Commercial bank or FINA as the institutions dealing with payment transactions have a supervisory function in the framework of proving the validity of the promissory note through some technical details, and upon the full payment of the promissory note they are obliged to inform the debtor about that and return such promissory note to the debtor at his request.

4.2. Payment through Court Procedure

If the creditor can not fully collect his claim from the debtor's account(s) following the specifications in the promissory note because the debtors accounts are empty or the assets on these accounts are not sufficient to cover the claims, payment then takes place under the provisions of Article 211 of the Distraint Law.

The commercial bank or FINA keeps promissory notes in the inquest register and according to the records in the inquest register it must transfer the funds as soon as they arrive at the debtor's account. It must be pointed out that according to Art. 183, section 7 of the Distraint Law the promissory note has the characteristics of a distraint document, which means that the creditor may and is entitled to request distraint against the debtors or guarantors of payers, if they have been specified in the promissory note beside the debtor issuer.

It is very important to investigate the circumstances around the debtor that may exist at the time when the request for initiation of distraint proceedings is being filed, as prescribed in Art. 4, section 7 of the Distraint Law, in order to establish the validity of seizure based on the given consent of the debtor and to justify the creditor's full right of claim.

Whether a thing or a right may be the subject of distraint, i.e. whether a distraint over a thing or a right is limited, is determined with respect to circumstances that have

existed at the time when the distraint proposal has been filed, unless expressly determined otherwise by this Law.

Distraint can not be performed on: objects out of circulation; items specified by a special law; claims based on taxes and fees; objects, arms and equipment intended for defense; and movable property mentioned in Art. 128, section 1 of the Distraint Law.

Finally, distraint starts on the basis of the distraint proposal that moves into the phase of enforcement proceedings. The distraint proposal, in this case, is the promissory note; which irrefutably proves that the promissory note is an instrument of insurance that has the form of a formal legal distraint document.

5.0. CONCLUSION

Serious problems of guaranteeing the payment of monetary claims in Croatian economy – and in that connection endangerment of solvency – are being partly overcome by the use of promissory notes as payment security instrument

The elementary function of promissory notes is to guarantee and offer creditors safety in the collecting of their claims, whereas on the other hand there is the need and fear of every debtor that they could be manipulated by the creditor(s) after the claim has been collected.

The development of the institute of promissory note on the legal and economic basis in the past few years has not been negligible as compared to the viewpoint and the effects that have resulted from the use of promissory notes in the economy. Consequent implementation of the Distraint Law, the distribution of judicial powers and transfer of some of these powers to notaries public as arbitrators have transformed the institute of promissory note into a more significant factor, so that today it determines the debtor-creditor relations more successfully and more efficiently.

Promissory note has the characteristic of a valid writ of execution, so that in the moment of collecting the promissory note the authorized commercial bank or FINA as legal entities must treat the promissory note as a valid court ruling. Every debtor who has filled in a promissory note has no possibility to protect himself by court proceeding, because the creditor will coercively collect his claim from the account for which the debtor has previously given his consent. The creditor is entitled to charge the total claims, and if there is no money on these accounts, the promissory note is retained and the charging process can last as long as it takes for the creditor to collect his claims in full amount, in other words in the promissory note the institute of reservation has been founded as well.

LITERATURE

1. Amon,F.:*"Mjenica i zadužnica: i ostali načini podmirenja obveza: prijeboj, cesija i asignacija"* (*Bill of Exchange and Promissory Note: and Other Forms of Settling Debts: Compensation, Cession and Assignment*) T.E.B., Zagreb, 2004
2. Amon,F.; Lulić,M.; Momčinović,H.; Vidović,A.: *"Osiguranje plaćanja-mjenica, ček, akreditivi, zadužnica, fiducija"* (*Guarantee of Payment: bills of exchange, check, credentials, promissory note, trusteeship*), RRIF Ekonomsko-pravna biblioteka, Zagreb, 2002
3. Gorenc,V.: *"Osnove trgovačkog prava"* (*Essentials of Commercial Law*), Gorenc & al., Zagreb, 2001
4. Lulić,M.: *"Kako koristiti zadužnicu?"*(*How to Use the Promissory Note*), RRIF, no. 01/2004, pp. 199-203
5. Šimunec, N.: *"Bjanko zadužnica-izdavanje i naplata"* (*Blank Promissory Note – Issuing and Charging*), RRIF, no. 09/2004, pp. 60-70
6. Vidović,A.: *"Nova zadužnica u prometu"* (*New Promissory Note in Circulation*), Poslovni magazin, no. 03/2006, pp. 50-51
7. *Zakon o obveznim odnosima (Law on Contractual and Other Relations)*, NN no. 53/91, no. 111/93, no. 03/94, no. 07/96, no. 91/96, no. 112/99
8. *Zakon o trgovačkim društvima (Company Law)*, NN no. 111/93, no. 34/99, no. 52/00, no. 118/03.
9. *Ovršni zakon (Distraint Law)*, NN no. 57/96, no. 88/05
10. www.legalis.hr/modules/newbb/viewtopic.php?topic_id2893=&the_forum
11. [www.efzg.globalnet.hr/UserDocsImages/FINE/fin_FIT % 20doc.dr.Jakovčević.pdf](http://www.efzg.globalnet.hr/UserDocsImages/FINE/fin_FIT%20doc.dr.Jakovčević.pdf)
12. www.rif.hr/0410/sadrbody.htm
13. www.poslovniforum.hr/the_info/lit20b.asp

FINANCIAL OPTIONS - A LOOK AROUND THE WORLD

Dr. Izabela Pruchnicka-Grabias, Ph.D.
Economic University in Warsaw

SUMMARY

The author analyses one of financial derivatives – option contracts. Trading volumes and outstanding amounts are presented. The paper is devoted both to over-the counter options, as well as to options traded on organised exchanges. The overall conclusion is that these instruments grow fast both on the Polish market, as well as on the world markets.

1. INTRODUCTION

Options are one of the most significant derivative instruments. It is due to their advantage meaning that they are the right, not the obligation of the buyer to buy or sell a specified amount of the underlying instrument at a fixed time for the earlier stated price called the exercise price. They can be interpreted as insurance policies as well.¹

2. SUBJECT AND RANGE OF EXAMINATIONS

The turning point in options development was 1973 when Fisher Black and Myron Scholes² published the model for their valuation. Since then options have been used widely. The aim of the paper is to prove that option contracts are still often applied derivative instruments traded both over-the-counter and on organised exchanges around the world, and there are more and more instruments traded every year. The analysis is based on data achieved from the Bank of International Settlements as well as on calculations made by the author. The examined period are years from 2003 to 2005. Data are presented on a monthly basis. They can be compared as the same month is analysed every year. Only options volume on the Warsaw Stock Exchange are analysed on a year basis because options have been traded there since the end of 2003 only, which means that monthly data would may not be representative on the market that is not developed and not liquid enough.

¹ For further reading: A. Nakielski, *Opcja a polisa ubezpieczeniowa*, Zeszyty Kolegium Zarządzania i Finansów, Szkoła Główna Handlowa w Warszawie, Warszawa 2004, s. 46 – 56.

² See: F. Black, M. Scholes, *The pricing of options and corporate liabilities*, Journal of Political Economy nr 81, May/June 1973, p. 637 – 659.

3. OPTIONS' SHARE IN THE WORLD OTC TRADE IN DERIVATIVES

Data depicted in tables 1 and 2 show that options are traded both OTC and on organised exchanges.

Table1. Notional outstanding amounts of OTC derivatives in June 2003, June 2004 and June 2005 (in billions of US dollars).

Instrument	Notional outstanding amounts		
	June 2003	June 2004	June 2005
Total contracts	169,658	220,058	270,100
Foreign exchange contracts	22,071	26,997	31,075
Outright forwards and forex swaps	12,332	13,926	16,031
Currency swaps	5,159	7,033	8,236
Options	4,580	6,038	6,809
Interest rate contracts	121,799	164,626	204,393
Forward rate agreements	10,271	13,144	13,573
Interest rate swaps	94,583	127,570	163,749
Options	16,946	23,912	27,071
Equity-linked contracts	2,799	4,521	5,145
Forwards and swaps	488	691	1,176
Options	2,311	3,829	3,968
Commodity contracts	1,040	1,270	1,693
Gold	304	318	288
Other commodities	736	952	1,406
Forwards and swaps	458	503	738
Options	279	449	668
Other	21,949	22,644	27,793

Source: prepared by the author on the basis of Bank of International Settlements Quarterly Review, March 2006.

If one compares outstanding amounts of derivatives in June 2003, 2004 and 2005, it is obvious that the role of derivative instruments in the world economy increases year by year. This tendency is seen for instruments on all most important underlying instruments, i.e. currency, interest rates, equity, commodity and others. This rule applies both to forwards and swaps, as well as options.

Table 2. Options' share in OTC derivatives

Instrument	June 2003	June 2004	June 2005
Total options	14,21%	20,17%	22,70%
Foreign exchange options	23,37%	22,36%	21,91%
Interest rate options	13,91%	14,52%	13,24%
Equity-linked options	82,56%	84,69%	32,90%
Commodity options	26,83%	35,35%	47,51%

Source: author's own calculations based on Bank of International Settlements data.

It can be concluded on table 2 that options' share in the total number of derivatives grows year by year. If we conduct a deeper analysis, it can be noticed that these are mostly commodity options that are responsible for the mentioned growth. It proves that volatile prices of commodities are an important part of risk in the world economy. The growing significance of options derives from the need of applying them in risk management. They are often tailor-made, which means that they are suited for special needs of a hedger who is an option buyer. These instruments are called exotic options³ and are more flexible than standard options.

4. OPTIONS' SHARE ON ORGANISED EXCHANGES OF DERIVATIVES AROUND THE WORLD

Tables 3, 4 and 5 prove that options are the important financial instrument for world exchange markets. Their role increases year by year and they, together with futures contracts, contribute to the world trade in derivatives.

³ See: I. Pruchnicka-Grabias, *Egzotyczne opcje finansowe. Systematyka, wycena, strategie*, CeDeWu, Warszawa 2006.

Table 3. Derivative financial instruments traded on organised exchanges (notional principal in billions of US dollars).

Instruments	Amounts outstanding		
	December 2003	December 2004	December 2005
FUTURES			
All markets	13,752.9	18,903.6	21,623.0
Interest rate	13,123.7	18,164.9	20,712.4
Currency	79.9	103.5	107.7
Equity index	549.3	635.2	802.9
OPTIONS			
All markets	23,034.0	27,688.8	36,188.3
Interest rate	20,793.8	24,604.1	31,587.3
Currency	37.9	60.7	64.2
Equity index	2,202.4	3,024.0	4,536.9
Total (options+futures)	36,786.9	46,592.4	57,811.3
Interest rate	33,917.5	42,769.0	52,299.7
Currency	117.8	164.2	171.9
Equity index	2,751.7	3,659.2	5,339.8

Source: prepared by the author on the basis of Bank of International Settlements Quarterly Review, March 2006.

As it can be noticed from table 3, the total number of derivatives traded on organised exchanges increases in the examined period, i.e. in 2003 – 2005. Data are taken from the same month every year, which means that they can be compared. This tendency is noticeable also for every instrument (options or futures) analysed on its own. The majority of discussed derivatives are options that account for around 60% of the total derivative trade every year in the given period. If one conducts a deeper analysis, one can conclude that interest rate options are about 60% of all interest rate derivatives, whereas equity index options' share in the equity index exchange traded derivatives is slightly above 80% and goes up year by year. As far as currency options are concerned, their share in currency derivatives is slightly above 30%, however it is worth emphasizing that it increases every year in the analysed period (see table 4).

Table 4. Options' share in derivatives traded on organised exchanges.

OPTIONS	December 2003	December 2004	December 2005
Options total	62,61%	59,43%	62,60%
Interest rate	61,31%	57,53%	60,40%
Currency	32,17%	36,97%	37,35%
Equity index	80,04%	82,64%	84,96%

Source: author's own calculations based on Bank of International Settlements data.

Table 5. Derivative financial instruments traded on organised exchanges (number of contracts in millions of US dollars).

Instruments	Contracts outstanding		
	December 2003	December 2004	December 2005
FUTURES			
All markets	62.9	68.1	107.3
Interest rate	40.1	48.8	54.2
Currency	2.6	2.0	4.1
Equity index	20.1	17.4	49.0
OPTIONS			
All markets	61.1	71.7	91.7
Interest rate	21.4	24.7	31.6
Currency	0.8	0.9	1.1
Equity index	38.9	46.0	59.1
Total (options+futures)	124	139.8	199
Interest rate	61,5	73.5	85.8
Currency	3.4	2.9	5.2
Equity index	59	63.4	108.1

Source: prepared by the author on the basis of Bank of International Settlements Quarterly Review, March 2006.

If one considers the number of option contracts outstanding, the same conclusion can be drawn, which means that like other derivatives, options are more and more eagerly traded instruments. The number of options on organised exchanges increases year by year in the analysed years. It approves of their increasing role in the world economy.

5. OPTIONS TRADE IN DIFFERENT CONTINENTS

Let's conduct the analysis a step further. Table 6 depicts options traded on organised exchanges, dividing outstanding amounts into continents. It shows that the most important centres of derivatives generate higher and higher amounts outstanding every next year.

Table 6. Financial options traded on organised exchanges by location (notional principal in billions of US dollars).

Instruments	Amounts outstanding		
	December 2003	December 2004	December 2005
North America	11,804.0	17,142.6	24,067.7
Interest rate	10,381.8	15,286.7	21,255.4
Currency	18.5	40.6	28.6
Equity index	1,403.7	1,815.2	2,783.7
Europe	11,043.3	10,335.5	11,696.4
Interest rate	10,357.2	9,282.0	10,234.7
Currency	0.3	0.5	0.6
Equity index	685.8	1,053.0	1,461.2
Asia and Pacific	128.7	133.1	319.7
Interest rate	44.2	13.7	67.4
Currency	-	-	-
Equity index	84.5	119.4	252.4
Other markets	58.0	77.6	104.5
Interest rate	10.6	21.7	29.9
Currency	19.0	19.5	35.0
Equity index	28.4	36.4	39.7

Source: prepared by the author on the basis of Bank of International Settlements Quarterly Review, March 2006.

As table 6 shows, North America is the main centre of options. Its majority over other continents grows up year by year. The second place belongs to Europe. Asia and Pacific is the third large centre of options. Other markets account for only 0,56% in December 2003, 0,48% in 2004 and 0,29% in 2005 of the total options amounts outstanding, which means that their importance decreases.

To sum up, the role of derivatives in the world economy increases year by year. This rule also applies to a special kind of derivative that is option. This tendency is seen both for amounts outstanding and the number of contracts. It is worth emphasizing that the

main centre of options is North America and its share in the world trade rises in the examined period.

6. OPTION CONTRACTS IN POLAND

Options were introduced to the Warsaw Stock Exchange in September 2003. Their turnover grows fast and they are a popular instrument for investors. Much earlier options were launched into the Poznań Commodity Exchange and into the over-the-counter market, which took place in 1995. They provide possibilities for risk management for financial and non-financial institutions.

Options on the Poznań Commodity Exchange Market are commodity options. As far as Polish OTC market of options is concerned, is not well developed. These are mainly currency options for such currency rates as EUR/USD, USD/PLN, EUR/PLN. However, there are plans to introduce some other kinds of options, first of all interest rate options. As far as options on the Warsaw Stock Exchange are concerned, these are instruments whose underlying assets are stocks of the biggest Polish companies and the Warsaw index of the 20 biggest companies listed on the Warsaw Stock Exchange.

Table 7. Options turnover statistics on the Warsaw Stock Exchange.

Criterion	2003	2004	2005
Trading volume (millions PLN)	636	2,786	11,556
Average volume per session (millions PLN)	9.21	10.93	45.32
Open interest at the end of the year	847	4,775	6,845

Source: prepared by the author on the basis of data published by the Warsaw Stock Exchange.⁴

As data depicted in table 7 show, options on the Warsaw Stock Exchange develop quickly. It is proved both by trading volume and average volume per session, as well as open interest at the end of each year. It means that the WSE follows the earlier discussed world trends in options trade.

SUMMARY CONSIDERATIONS

All in all, options are derivatives whose role both in Poland and in the whole world increases and will rise in the future. It is due to their unique features that have already been discussed in many publications.⁵ None developed economy can exist properly without option contracts. They are needed mostly for hedging purposes and it is the necessity that

⁴ Rocznik Gieldowy 2006, Gielda Papierów Wartościowych w Warszawie, Warszawa 2006, p.90.

⁵ See for example: R.L. McDonald, Derivatives Markets, Pearson Education, Boston 2003.

is the mother of invention.

LITERATURE:

1. F. Black, M. Scholes, The pricing of options and corporate liabilities, *Journal of Political Economy* nr 81, May/June 1973.
2. R.L. McDonald, *Derivatives Markets*, Pearson Education, Boston 2003.
3. A. Nakielski, *Opcja a polisa ubezpieczeniowa*, Zeszyty Kolegium Zarządzania i Finansów, Szkoła Główna Handlowa w Warszawie, Warszawa 2004.
4. I. Pruchnicka-Grabias, *Egzotyczne opcje finansowe. Systematyka, wycena, strategie*, CeDeWu, Warszawa 2006.
5. *Rocznik Giełdowy 2006*, Giełda Papierów Wartościowych w Warszawie, Warszawa 2006.
6. *Quarterly Review*, Bank of International Settlements, March 2006.

SHORT ANALYSIS OF ROMANIAN BANKING SECTOR AFTER BCR PRIVATIZATION

Gaviletea Marius, Ph.D
Faculty of Business

ABSTRACT

„The greatest problem of Romanian companies' privatisation appeared in the moment the Govern decided to privatize Romanian Commercial Bank – the largest one in Romania. In this paper we devate the privatisation strategy, and analyze the benefits of all involved parts at this transaction. It is described the privatisation process, and the criteria token into account. After this very successfull privatisation major changes appeared on the Romanian Banking market.also we analyze others bank strategy towards this privatisation, and the BCR' employees benefits.

Also in this transaction were involved some financial Romanian institution S.I.F.(explained in the paper) and we analyze their strategy in selling theirs BCR shares to Erste Bank – the winner of the privatisation. Because these S.I.F. are listed on Bucharest Stock Exchange – a short analysis of their stock evolution is presented.

After this privatisation, some commercial private banks of Romania trying to expand very quickly, in order to find in the next years a strong international bank to buy them. We compared also some banks, taking into account their evolution on Bucharest Stock Exchange – as a consequence of Romanian Commercial Bank privatisation. ”

Keywords: ”banking, privatisation, competition, strategy”

The privatisation of Romanian Commercial Bank (B.C.R.) – the biggest commercial bank of Romania started in 2002, as a condition in stand-by agreement with IMF. The privatisation strategy was modified after two failures of APAPS (Authority for Privatisation). APAPS and SIFs was the 2 great entities that had BCR shares.

All SIF companies (SIF1, SIF2, SIF3, SIF4 and SIF5) were established in November 1996 and represent entirely private and self managed companies. Successors of the Private Ownership Funds I, II, III, IV and V (Law nr.133/1996 regarding the transformation of Private Ownership Funds into SIF – Financial Intermediation Companies) manage theirs own portfolio, made up of stocks in about 500 Romanian companies (listed or not listed on BSE – Bucharest Stock Exchange or RASDAQ). The shareholders of the each fund, in number of about 7 million natural and legal persons, are either

- Founders-owners, that is natural persons who received shares of SIF when the mass privatization process took place (PPM) or

- New-investors, that is legal and natural persons who have invested in SIF shares when they started being traded on Bucharest Stock Exchange.

Starting with 1st of November 1999 every SIF are quoted at the first category of BVB.

The new strategy mentioned that from the shares held by APAPS, 25% of shares plus 2 shares will be sold to BERD and IFC (investment division of World Bank). The price for this transaction was established at \$222 millions. This was the first step from the 3 steps strategy of privatization.

In the next step 8% of the shares were sold to the BCR employees at a price of 1.035 Ron/share (0.3 Euro) – very close to the nominal value 1 Ron.

The last step was about selling the majority of shares to an important international financial institution – until 2006. The minimum price per share must be less than the price paid per share for getting back the shares sold to BERD and IFC (mentioned in OG 28/2003).

In the autumn of 2005, 7 international banks made their offer to acquire 61.88% of BCR - Dexia, Erste Bank, BNP Paribas, Banco Comercial Portugues, Deutsche Bank, National Bank of Greece and Intesa Bank. The specialists of Ziarul Financiar (Romanian version of Financial Times) expected that the final winner of the privatization will be Erste Bank. The members of privatization commission open the offers in 18 of October 2005 and the name of the two finalists was to be announced after technical and financial aspects. The most important criteria in deciding the finalists are the price (90% importance) and the technical offer (10% importance).

The two finalists – Erste Bank and Banco Comercial Portugues had to present in the final phase a better price for 61.88%, than the price offered in the previous step. At that time the specialists expected a price for this privatization between 2 and 3 billions euro.

BCR will be listed on Bucharest Stock Exchange (BSE) in three years time from the privatization – based on a mentioned from the privatization contract. By listing the shares the winner of the privatization will pay dividends from minimum 40% of the net profit.

The new owner of the larger Romanian Commercial Bank (BCR) is the Austrian bank Erste Bank. They paid 3.75 billions euro for 61,88% of the shares, 5.8 times more than the accounting value of BCR, and 20 times more than the net profit of BCR. In the business plan of Erste Bank they desire a serious restructuration in order to generate a 10% profitability of this investment starting with 2009. Erste Bank negotiated some advantageous clauses - guaranties to assure protection up to 60% form the price paid for

61,88% of BCR shares, immediate access to the decisional factor in BCR. Erste Bank set up a Transitional Consulting Committee (TCC) formed by 10 persons named by Erste Group. These members have full access to the internal and international information of BCR, and have the right to participate to the Executive Committee and Supervising Board meetings – but they don't have the voting right.

Following a similar strategy as in the former acquisitions in Central and Eastern Europe, Erste Bank will launch an integration and restructuration program inside BCR, with the main purpose to increase the revenues, optimisation of the subsidiaries network and human resources performance increasing.

Erste Bank was set up in 1819 in Austria, and in present is the third important bank concern in the region (taking into account the assets). The assets at the end of 2005 were of 39.4 billions Euro, after UniCredito & BA-CA with assets of 73.4 billions euro and Raiffeisen International assets of 40.7 billions euro.

The Austrian bank with an aggressive acquisition strategy became a very important player on the East European banking map. In the year 2000 Erste acquired 52% of the shares of Ceska Sporitelna, the largest retail bank in Czech Republic (with market share of 33%). Between the years 2002-2003 Erste grew its participation up to 98%. Now there are 646 subsidiaries and 5.3 millions clients.

In the year 2001 Erste bought 87% of the Slovenska Sporitelna – the largest bank in Slovakia, with an actual market share of 34%. This bank transformation followed 11 critical points: banking retail, business centers, credit risk management, corporate identity, property administration and so on. Until the year 2005 Erste completed the participation to 100%. They have now 302 subsidiaries and 2.5 millions clients.

In 1997 Erste Bank entered in the Hungarian banking market by acquiring 83.66% of Mezőbank – that became in 1998 Erste Bank Hungary Rt. In December 2003 Erste bought 99.97% of Postabank és Takarékpénztár Rt. and then merged with Erste Bank Hungary. The new bank is situated on the second place on the retail market with 10% market share. At this time they have 160 subsidiaries and 0.9 millions clients.

In 2002 Erste Bank had bought 85% of Riječka Banka shares, and merged with Erste Bank Croatia and the result was the third largest bank in Croatia. The fusion had three phases: - the first step was about credit operations, the second – legally fusion, and the third was about retail division alignment. The present market share is around 10%, and Erste Austria has 62% of Erste Bank Croatia shares. The numbers of subsidiaries are 120 and the clients 600,000.

In Romania, in the early phase, Erste brought another 2.4 millions euro early in 2006, the amount is used to increase the credit volume in foreign currency. In the next two years,

Erste desire to reduce the cost-income rate from 52% to 48% and to double the capital profitability from 17% to more than 35%. They will set up an investment program of 100 millions euro through the next 3 years, to improve the retailing and IT infrastructure.

The costs of BCR integration in Erste Banking Group are estimated at 90 millions euro. By acquisition of BCR, Erste modified their financial objectives – the yearly profit rate increasing of 15% was modified to 20% for 2006 – 2009, and the cost-income rate will decrease below 55%. As target, Erste declared that they intend to increase the market share in corporate segment.

The biggest transaction of Erste by now, will consolidate the second place of the Austrian Bank in the former communism block. The privatisation of BCR reflects the Romanian Government's determination to implement the economical reform needed for desired EU integration in 1st of January 2007. The sum obtained by Romania represents more than the greatest optimistical expectation – mentioned Business Week. Also, we can notice the Bloomberg specialists' affirmation – the privatisation contract of BCR, that enhances 325 subsidiaries, properties and liquidities of 9 billions euro, 4.9 million clients at the end of September 2005 perfectly represent the interest of all implicated parts (Erste Group, international financial institutions and shareholders).

Details of transactions:

- Romanian State will get from this transaction 2.25 billions euro, and the difference of 1.5 billion euro will be equally divided between BERD and IFC (if we analyze the initial price of \$222 millions paid by BERD and IFC, they obtained a 675% growth in only 3 years)

- 45.9% of Erste Bank are institutional investors (investment funds) and 32.2% represent the shares of Die Erste Österreichische Spar-Casse Foundation. The rest of the shares are distributed: 7% private investors, 7.1% saving banks, 1.8% to the employees and 6% Austria Versicherungsverein.

- The total assets of Erste at the end of 2005 represent 5 times the entire banking assets of Romanian banking system.

- after the acquisition of BCR the number of Erste clients grew almost with 22%, the subsidiaries number grew with 14% from 2.369 to 2.708, and the potential clients grew from 46 to 68 millions

- Erste Group has a 20% market share in the entire European banking system

If we analyze the price paid by Erste, there will follow obviously a need for a quick efficiency. They will bring new and successfully products already implemented in other countries, and we can notice the Romanian side of Erste easy access to enough and low costs financial resources.

This privatisation is a very good option for Romanian state just because there is no need for the state to be the greater shareholder of the larger commercial bank. Anyway, the entrance of Erste in Romania will be a guaranty that after adhesion to EU, the Romanian

banking market is ready for the competition against the larger and middle banks in Europe.

BCR privatization, rearrange the market strategies of all Romanian commercial banks. Small and medium commercial banks in Romania are trying to find new market opportunities, if we also take into account the fusion between Unicredito-HVB-Banca Tiriac. These 2 great operations modified the value system in the banking industry.

For these type of banks the niche financial service may represents theirs future. But, there are some banks with sufficient financial strength that want to compete with great Romanian banks.

The Lebanon commercial bank – BLOM, the major shareholder of MISR Romanian Bank, guide its policy towards the Arabian community clients and transactions with subsidiaries from Europe and Middle East offering retail and corporate transactions. Bloom Bank get in 2005 96.77% of MISR Romanian Bank shares, paying 97.8 mil.USD.

MISR Romanian Bank was founded 1977 as mixed Egyptian-Romanian company, and now has subsidiaries in Egypt and four agencies in Romania – Bucharest, Brasov, Cluj-Napoca and Constanta. At the beginning of this year, Bloom Bank announced that will increase the Romanian subsidiary capital, but there is no mention regarding to this amount.

Bloom Bank is analyzing the possibility to extend in other countries in Eastern Europe, and now administrate worldwide 9 billion USD in deposits with total assets of 11 billion USD.

Another international bank in Romania - OTP doesn't seem to be attracted from the Romanian bank market. OTP made an offer to acquire Ukrasotsbank (forth larger Ukrainian commercial bank), and the experts of banking system appreciate that the Hungarian bank has more chances to succeed in the Ukrainian market that the Romanian one. There, OTP must compete against Commerzbank, Société Générale, Erste Bank and Intesa Bank. Against this strategy, OTP still seems to be interested in CEC (from the Romanian market) and in Serbia they made an offer to Vojvodjanska Banka, in Croatia for Splitska Banka. OTP is active in Romania since April 2004, when acquired RoBank for 47.5 mil.USD. The last important acquisition of OTP was in 2003, when they bought Bulgarian bank DSK. Theirs plan in Serbia and Ukraine failed because strong European financial institutions were attracted of the exponential development of the banking market in Balkans.

Finansbank Romania (member of FIBA Group) adopted an aggressive strategy. The banks' shareholders desire to increase the social capital with 11.1 millions euro. They will issue 18.6 millions new shares with a nominal value of 2.15 lei. By this increase the bank

desires to sustain the development program in 2006-2007. The main allocation of these funds is crediting and territorial expansion of the bank (50 new agencies, from which 20 in Bucharest). At the beginning of 2006 there were 42 agencies operating in Romania, and the financial results in 2005 reflects a 80% growth of the assets comparing to the end of 2004 (in 2004 the net profit of the bank was 13.2 millions lei – 3.7 millions euro, and the assets were 789,9 millions lei – almost 220 millions euro). This percentage of 80% is similar to the growth of credit allocation in 2005.

We must analyze if the commercial listed banks have some growth potential in Bucharest Stock Exchange - BVB.

Banking equities are a very dealt in BVB and are recommended as middle and long term investment, for the middle risk appetite investors. In 2005 these equities had a very good increasing period; the profitability of Transilvania Bank (B.T.) was 123%, including the effects of social capital rising.

Normally, great banks follow a constant increasing of theirs financial results, but in Romania BT and BRD-GSG confirm this mention. Surprisingly, the quotations for these 2 equities grown accelerated in the last years. So the evaluation indicators got worse.

We can compare these two banks with other banks from the East Europe:

Bank	VUAN (euro)	EPS (euro)	P/Bv*	PER*	ROA	ROE	Banking assets multiplier **
TRANSILVANIA Bank	0.05	0.01	9	35	2.2%	25.5%	89%
BRD – GSG	0.73	0.25	7.1	21	3.6%	34.3%	71%
CARPATICA Bank	0.04	0.005	4.5	38	2.1%	13%	96%
OTP Bank Hungary	7.4	2.15	3.9	14	3.7%	29%	59%
KOMERCNI BANKA CEHIA	46.6	8.47	2.4	14	2.4%	18.2%	27%
Bank PEKAO PO- LAND	20.7	2.2	3.7	21	2.8%	17.6%	49%
ERSTE BANK AUSTRIA	21	10.9	2.2	16	0.8%	14.2%	-

* Indicators calculated in March 21st of 2006

** banking assets from a country calculated by market share of each bank and its capitalization, divided by real banking asset (a small value may indicate a sub evaluation of the bank in Stock Exchange)

Without a special analysis, BRD-GSG equities seems to be more interesting than the others two, because of the profit from the former year 2005, the assets and market share. Taking into account evaluating indicators, BRD-GSG are closer to Hungarian, Czech, Polish great banks, but if we pay attention to financial profitability the Romanian bank is better than the other. The market share of BRD-GSG is 15% much more than the other two Romanian listed banks, and the banking assets calculated with market share represents 71% from the real banking assets in Romania – that's why the equities seems to be sub evaluated. In other words, if BRD-GSG is the only bank in Romania its capitalization is 71% (less than the others Romanian commercial banks). Just for comparing, Transilvania Bank has a 3.5% market share quota, but is more appreciated in the market, and if we calculate the banking assets taking into account bank capitalization and market share, we obtain a 90% from the real banking assets.

Transilvania Bank has an important advantage – rising social capital policy – that generate in the Romanian market a psychological effect; the growth of its quotations every ending and starting year. This year this bank propose the increase of social capital with 65,93%, from which 50,9% represents the reserves capitalization and share premiums (free shares) and 15% cash contribution from the existing shareholders (at a preferential price of 0,35 RON/share). Surprisingly, this year after convocation announcement the investors stood calmly and the BT quotations stagnated.

The export of loans to the balance sheets of the parent banks, as well competitive pressure have caused visible changes in the market share ranking of the banking system in the first three months of the year. Out of the top 15 banks in terms of assets, five saw their market shares decline compared with the end of 2005: Raiffeisen, HVB, Bancpost, ABN Amro and Țiriac Bank.

On the other side, “the winner” is ING Bank, that increased it's active with more than half a billion Euro, and generated a market share of 6,3%.

The market leaders - BCR (Erste Bank) and BRD GSG – continuously grew with 0.2% each, based on retail business. BCR reached a market share of 25.9% with total assets of 9,7 billins Euro, and BRD-GSG has 15,2% in the market.

Overall, the market achieved a solid 8.3% growth, with the assets of the banking system amounting to 37.7 billion euros at the end of March. In order to avoid BNR (National Romanian Bank – the supervising authority) restrictions related to foreign currencies credits, some banks prefer to transfer a part of the credits to the parent bank.

The third bank on the market, Raiffeisen Bank, maintained its position even though it witnessed one of the sharpest declines in market share, 0.7%, to 8% of the market. Also the same decline of 0.7% had HVB Bank down to 4.2% in the market, in situation that their own assets decreased with 230 mil. Euro.

The chairman of HVB Bank, mentioned that the bank transferred some of operations in Vienna and the trend will continue. As the market share of Banca Țiriac, HVB's merger partner, shrank from 2.5% to 2.3% in the first quarter, the future HVB Țiriac Bank would have been fifth on the market on March 31, with 6.5%,

The first three months of 2006 witnessed a spectacular rebound of CEC, whose sales of credits reach significant volumes: the former savings bank climbed from seventh to the fifth position, with a 4.5% market share, given that assets went up by 180 million euros. CEC thus outpaced HVB and Bancpost at the end of March.

Bancpost is one of those credit exporters, so that its assets shrank by some 30 million euros compared with December, which translated into a 0.5% market share decline to 4%. The bank recuperated in April 2006, on retail credit sector, and real estate credits the wrong steps from the previous year.

A significant increase, 0.3% was that of Alpha Bank, which climbed from ninth to seventh, with assets worth 1.53 billion euros, leaving Bancpost behind and making the clash of the two Greek-held bank fiercer in the process. At the same time, Banca Transilvania, Banca Românească, UniCredit and Volksbank achieved minimal growth of the market shares, by 0.1%. Still, Transilvania dropped from eighth to ninth place.

The market share of the Dutch at ABN Amro continued to close after last year's fall, to 3.5% from the 3.7% in December. This bank's assets amounted to 1.314 billion euros. So the bank remained on the 10th place. Also Citibank remained on the 12th place with assets of 729 mil. Euro.

Most of the middle size banks with market share of 1% succeeded in maintaining their position in the first three months of this year. In these cases, with just millions of Euro of assets, the differences in market shares are quite insignificant.

The 24 banks situated under the 15th place hold total assets of 4.1 billion Euro, just a half from BCR assets. For these banks is very difficult to increase their market share even with 0.1%. Only 4 banks from the 24 succeeded in increasing the market share with 0.1%. Finansbank, Romexterra, Carpatica and OTP. Finansbank has 1% from the market share with 1.1% assets – a 19% increase from December 2005. A similar assets increase had Romexterra almost 14%, which assets of 327 million Euro and a market share of 0.9%.

Another influence of BCR privatization was the evolution of all SIF quotations. Some international financial institutions are interested in the 30.12% of BCR shares held by the five SIF.

The real boom of SIF shares (SIF1, SIF2, SIF3, SIF4 and SIF5) was registered during the last year, four of them tripled the traded price, and the last one just doubled it (SIF3). The increase of the maximum holding basis from 0.1% to 1% and the privatization of BCR

were the principal factors that generate these share increases.

Company	VUAN (euro)	P/Bv*	P/Bvr*	PER*	
SIF BANAT CRISANA	2.4049	4.4362	1.03	0.56	27
SIF MOLDOVA	2.2721	4.4851	1.06	0.54	25.8
SIF TRANSILVANIA	2.5184.	4.5456	0.9	0.5	33.1
SIF MUNTENIA	1.4379	2.8263	1.11	0.56	22.6
SIF OLTENIA	3.0186	5.0674	0.9	0.53	27.2

* Indicators are calculated for the prices at 24th of March 2006 and PER using the results at the end of 2005

For SIF titles the net unitary asset recalculated (VUANr) were used 3 elements; the price paid by Erste Bank for the shares of BCR, the quotation of the first 5 held companies listed on primary stock exchange BVB and the quotations of the first 5 held companies listed on the Secondary Romanian Market RASDAQ – all the prices at the end of the trading day 22nd of March 2006 (the criteria for the first five companies was the percentage of participation).

The main part in the positive differences is reflected by BCR, the most valuable asset of every SIF portfolio. A lot of things that were said about all SIF, but if we judge only about the portfolio assets of them these stocks seems to be under evaluated (without recalculate the assets at the presents prices and using the price of 7.6 euro one BCR share)

The politic factors in a great manner and the macro economical ones had proved to be many times the most important factors that influenced the quotations. This is also the main risk factors taking into account by the investors. The practice demonstrated that middle and long time investments in SIF must analyze theirs assets, and not the factors mentioned before, and the legislative modifications that were just temporary.

We can conclude that SIF still can offer good profitability to the investors because there is a real evaluation of them (Erste Bank prices paid for BCR shares). Also, the imminent EU integration must be sustained and followed by economic and politic stability – that will be alike foreign investors requirements.

The employees of BCR that initially bought BCR shares expect now to sell their investments in very good terms. Erste Bank mentioned that the price they will pay for one share of employees will be less than the price per share paid to APAPS. The difference is

a premium per share paid in order to get the majority of the shares.

Another option for Erste is to convert the employees' shares in shares of Erste quoted in Austria. The price of Erste share in April 2006 was almost 50.21 euro/share, so the employees could have 1 Erste share for 6.5 BCR shares.

Anyway if we take into account the initial investment of employees at an estimated negotiated price of 7 euro/one BCR share, the profit will be of 2.233% in a period of 2-3 years.

The conclusions of the BCR privatization is that almost every part involved in this transaction got some important profits – BERD and IFC, APAPS (implicit Romanian State), the five SIF and the BCR employees. For the rest of the banks in the Romanian Banking market the competition will be very strong, and all of them must compete against a very important financial European institution. Also, the success of this privatization can be an example for another Romanian bank (the private one – Transilvania Bank) about the specialists of the market expects to be sold in 2-3 years, because it's continuously development.

Also, the Romanian companies and individual persons can have now more banking products, more advantageous credit terms – perhaps at a low cost, as a direct influence of the competition of all the banks.

References:

- B.C.R. privatization contract
- Bucharest Stock Exchange financial reports
- Trenca I. – Financial Management, Ed. Mesagerul, Cluj-Napoca 1997
- Transilvania Bank – Internal Report 2005
- www.kmarket.ro
- Law nr.133/1996

RATIONALIZATION OF THE HEALTH CARE SYSTEM THROUGH INTRODUCING OF BASIC AND SUPPLEMENTAL DRUGS LISTS ESTABLISHED BY CROATIAN INSTITUTE FOR OBLIGATED HEALTH INSURANCE

Sanja Popović, dipl. iur.
Ksenija Obrecht, dipl.ing.preh.teh
Postgraduate studies MANAGEMENT

1. INTRODUCTION

Systems of the health policies always have been in the center of public interest, especially because it is the matter of life and death in most literal sense. One of the major life and social risks, illness, is not only a primer matter of medical or public health intervention, but it is of the special social care of the State too. State's care primarily relates to the method of organizing of health care, apropos, how to fund it.

Reductions of expenses and savings for many years were pain the back of our medical care. To enter into European union, Croatia have to re-organized system of public health care so that it can become main carrier of preventive activities presided by European Union legal acquit in area of people's health care. As the same, it has to become the carrier of systematic enforcement of preventive programs for sickness reduction and for disburdening health care and reduction of health expenses along with it. Therefore, government's goal for improvement of health care brought up a national strategy for health development in period 2006-2011. However, Croatian parliament this summer brought up new package of "health laws". The biggest and newest change, which caused heaviest polemics, and which is a theme of this paper too, was introduction of two drugs lists by Health Institute. They are Basic and supplemental drugs lists, so-called A and B list. Particularly, it was evaluated that introduction of these two drugs lists; health care might save up to 303.363.954, 42 KN.

2. HEALTH CARE IN REPUBLIC OF CROATIA

Health care in Croatian Republic is basing on principles and they are following: availability, rectitude in adoption, efficient procedures for determination of needs for therapeutic and rehabilitation procedure, qualitative health care and to provide secure health care of its citizens. Primer health care organized such health care and it is under supervision of medicine institutes, first aid, and secondary and tertiary health care, which are hospitals and polyclinics.

Heath's system source of financing in Republic of Croatia is almost public because it mostly generates from contributions and taxes. Present heath system grounds on Bismarck's financial model, whereas 80% of expenses from health insurance come from contributions for obligated health insurance. Besides, the law for obligated health insurance provides finances for health insurance from budget, which is attribute of Beverage's model. Donations, direct paying by patients (allowances, administrative taxes, and other paying.) support Health care.

3. NEW THINGS IN CROATIAN HEALTH CARE

At the 21st meeting on 13th. July 2006, Croatian parliament brought a package of laws for health care¹, and they are:

1. The law about obligated health insurance,
2. The low about voluntary health insurance,
3. The law about health care on the work,
4. The law about amendments and appending for health care.

Hence, at the beginning of August, correctly, on third of August in 2006, package of laws for health care took effect and its goal was to rationalization of the system and debt reduction.

New introduced things in that package of laws for health care are multiple and I will name just some of them and dedicate some space to comment two lists of medical drugs.

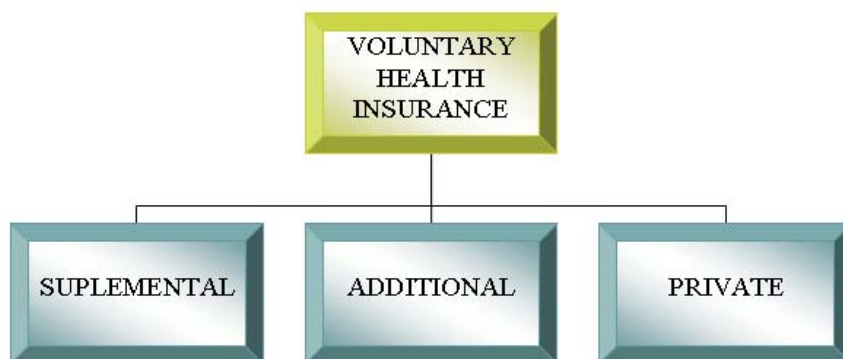
3.1. Obligated and voluntary health insurance

Health insurance in Republic of Croatia is obligated and voluntary, and they are separate, therefore we have one obligated health insurance that is **exclusively under Croatian Institute for obligated health insurance**. On the other hand, voluntary health insurance is separated from obligated and it is under special regulations which divide them into three kinds of voluntary health insurances:

- Supplemental health insurance
- Additional health insurance
- Private health insurance

¹ Narodne novine broj 85/2006 od 27. srpnja 2006

3.1.1. Voluntary health insurance



Many regulations normatively organized the area of voluntary health insurance: The law for obligated relationships, the law for voluntary health insurance, the law for health care and the law for insurance, which is the area organized by minister who legislate numerous sub law regulations.

Supplemental and additional health insurances belong to the group beyond of life insurances and they are set in contract as long term insurances that cannot last less then one year. All three insurance types made agreement between the contractor of insurance and provider (carrier of insurance). Supplemental and additional health insurance can make contract only with persons who already contracted obligated health insurance according to law regulations.

As said before, supplemental health insurance covers only expenses near full price of health care (supplement), but additional health insurance is dealing with health institutes, medical trade companies and branches, and workers in private medical sectors that may use rights from additional health insurance. Same institutions may make additional health insurance's contracts only with those capacities beyond agreed capacities with Croatian Institute for obligated health insurance.

3.1.1.1. Supplemental health insurance

Supplemental health insurance covers partial expenses up to full price of health care from obligated health insurance (supplement), and it is only for expenses that Croatian Institute is not covering for obligated health insurance. Hence, policy holder participate with 15, 25, 30 or 50% of service price, apropos, he pays additional expenses to cover full price for drugs listed on supplemental drug list. Policyholder of supplemental health insurance is only a person who signed obligated health insurance.

3.1.1.2. Additional health insurance

Additional health insurance provides higher standard of health care in comparison on regular health care that obligated health insurance offer. It also gives more rights then obligated health insurance. Policyholder and insurance provider sign contract about additional health insurance. Policyholder for additional health insurance may be anyone who already signed registration at obligated health insurance Institute.

3.1.1.3. Private health insurance

Any person who resides in republic of Croatia, but who is not obligated to insure himself according to the law for obligated health insurance and to the law for foreign care, have right to get private health insurance. Insurance provider determine prize for private health insurance regarding to the range of coverage written in contract and regarding to the risk which is insurance holder exposed. It considers age, sex, bonus and malus, tables of mortality and tables of illnesses, and duration of agreed contract about insurance.

Licensed society conducts voluntary health insurance for such type of insurances. Beside them, Croatian Institute for obligated health insurance conduct exceptional supplemental health insurance for covering partial expenses up to full price from obligated health insurance.²

3.2. Transportation refund

Furthermore, policy holders have right to claim transportation refund if they used services of medical institutions with whom they signed contract, apropos, if they use service of contractual doctor in the places no further then 30 km from their residences. This right, of course, can be approve only under condition that they could not use medical care in nearest health institution or in contractual doctor in private medical sector.

The right for transportation refund regardless distances has:

- Insured persons up to age of 18,
- Insured persons addressed to foreign counties for medical care,
- Insured persons who are organ, tissue or cell donators,
- Insured persons, users of hem dialysis like chronic kidney patients,
- Insured persons, residents or dwellers of islands, mountain areas, and areas under special care of the State.

Beside that, by new medical regulations medical centers returns to islands, they

² Čl. 15. Zakona o obveznom zdravstvenom osiguranja («Narodne novine» 86/2006)

determine that insurance holders over age of 50 must do a health check every two years, and assign new way of calculations for payment when insurance holder was not able to work because of illness or complications with pregnancies and childbirths. According to the new law³

Insurance holders have right on pay compensation from Institute resources if they are temporally unable to work because of illness or complications with pregnancies and childbirths from first day they open sick leave. However, instead of Institute, employer – legitimate or natural person, who claims refunds from Institute, calculates and pays compensations to demanders. Institute is obligated to pay claim compensation to employer in 45 days starting from day of receive of the compensation claim.

4. HAVING RIGHT ON HEALTH CARE

According to the law for obligated health insurance having right oh health care from obligated health insurance means having right on:

- Primary health care,
- Specialized-consylian health care,
- medical care in hospitals,
- Drugs from basic and supplemental drug list determined from Institute,
- Dental and prosthetic help and dental and prosthetic substitutes,
- Orthopedic and other aids,
- Health care in foreign countries.

The new thing in realization of right on health care is basic and additional drug list from Institute that Croatian republic appointed for drugs distribution for all Croatia.

This legal regulation is not valid on the day of Law enforcement, but rather **on the day when Institute enforce basic and supplemental drug list.**

BASIC DRUGS LIST contains economically and medically most relevant drugs for curing all diseases but reference drugs price is determine in public auction. Reference drugs price is price that Institute pay from obligated health insurance offering lowest price, which will guarantee supplement to all insured individuals.

SUPPLEMENTAL DRUGS LIST contains drugs with higher prices regarding drugs from basic list. Institute provides expenses covering for equivalent drug from basic drugs list. Supplemental drugs list must, besides full price for drugs, contain amount of allowance which insurance holder have to provide directly or through supplemental health insurance.

Recent years of last decade expenses escalated and culminated in year 2000, whereas total consumer demand (public and private) for health care was 10,2% of BSP.

³ Čl. 33. st. 3. Zakona o obveznom zdravstvenom osiguranju („Narodne novine“ br. 86/2006)

Even later consumer demand was not significantly different. In 2003 year total consumer demand was 8,9% of BSP, 2004, was 9,7 of BSP, and 2005, was 8,7% of BSP.

In period from 2001 – 2004 year, it was recorded significant growth for drugs demands on prescription, so that in 2001 year expenses were 2 billions KN, and in 2004, year, were 3 billions KN. Those expenses were set in table 1 below and it is display in diagrams.

Table1.

	2001.	2002.	2003.	2004.
Basic insurance	2.083.223.055,00	2.104.683.084,00	2.492.613.808,00	2.705.624.931,00
Supplemental insurance	-	65.885.908,00	223.941.625,00	307.243.336,00
Total:	2.083.223.055,00	2.170.568.992,00	2.716.555.433,00	3.012.868.267,00
Number of prescriptions	29.076.230	29.386.844	31.046.259	32.613.637

Diagram 1.

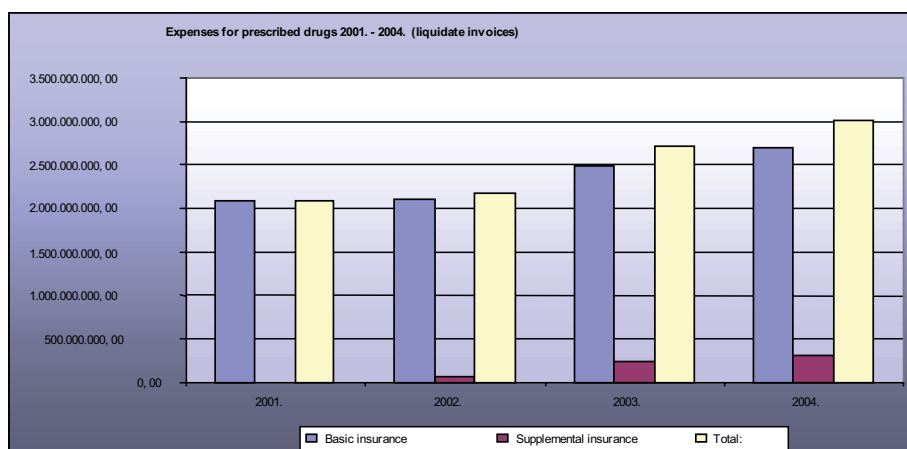
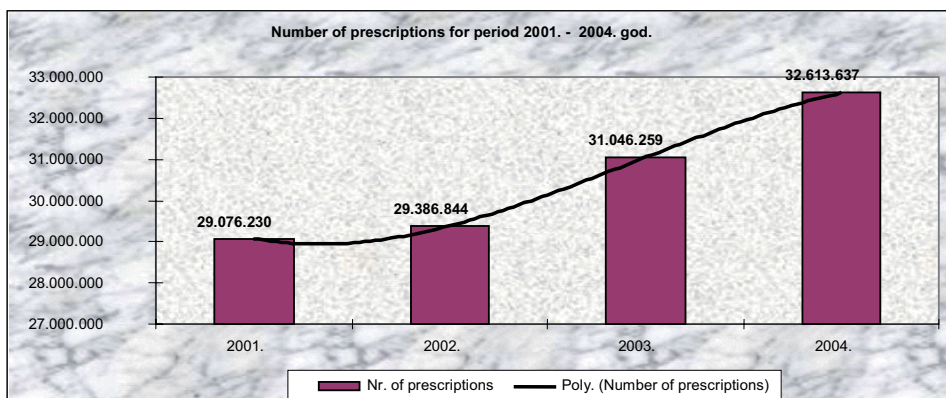


Diagram 2.



Need for strengthening fiscal discipline in medical system so it will reduce yearly deficiency, which carry negative influence, both, for medical sector and for fiscal situation in global, has had introduced measures for income increase, resources managements, expenses limitation toward suppliers, and restriction of expenses using pay reform among service providers in 2004, and 2005 year. Thos incomes were from private sources: allowances, administrative tax, and voluntary insurance.

Ministry of health care and social care in year 2004 established 35 urgent measures for spending reduction and for stabilization of medical system and health insurance. Those measures were inbuilt in contracts for primer health care, specialist-conciliate health care and in health care in hospitals.

Implementation of basic and supplemental drugs lists is only one of many measures in chain of spending reduction and stabilization of medical system of health care. Draft bill for obligated health insurance, particularly, estimate that introducing these two drugs lists will save 303.363.954, 42 KN to Institute for health care.

Table 2.

FINANCIAL EFFECTS EVALUATION		
Service type	Exp. accord. article. 17. ZZO for 2005. Year (price + service from 2005.)	Expenses evaluation accord. article. 15. draft bill ZOO (price + service from 2005.)
PRIMAR HEALTH CARE	787.454.648,79	787.454.648,79
a) general medicine	84.336.373,70	84.336.373,70
b) Pediatrics	78.166.452,48	78.166.452,48
c) Gynecology	949.957.474,97	949.957.474,97
TOTAL:		
PREVENTIVE HEALTH CARE		
Hygienic-epidemiological health care	55.177.612,72	55.177.612,72
Preventive-educational measures of health care	59.526.303,24	59.526.303,24
Vaccines	60.000.000,00	60.000.000,00
TOTAL:	174.703.915,96	174.703.915,96
HC FOR PREGNANT AND PARTURIENT/ women who plans family growth, contraception, pregnancy, child birth		
HOME VISITS		
TOTAL PHC		
STOMATOLOGY	697.644.500,64	697.644.500,64
Preventive dental care of children under age of 18		
Medical treatment of children under age of 18		
Med. Treatment of children over age of 18 and persons from age of 65 and older – urgent interventions		
Dental pathology and periodontal	10.018.069,00 ¹	10.018.069,00
Mobile prosthetics		
Preventive dental care for pregnant		
Medical care for pregnant		
SPECIALISTIC-CONSILIARIAN HEALTH CARE	540.187.000,00	540.187.000,00
URGENT CONDITIONS - EMERGENCY	337.253.976,71	337.253.976,71
AMBULANCE	142.275.028,82	142.275.028,82
HEALTH CARE IN HOSPITALS	6.607.688.573,00	6.607.688.573,00
Nr. Hospitalizations under age of 18 - 768.151 days - pension		
Nr. Hospitalizations over age of 18 - 5.545.627 days – pension		
Some defined surgeries and procedures like hip embedding, wrist replacement...	38.609.923,00	38.609.923,00

PHYSICAL THERAPY AND REHABILITATION, SPA TREATMENT	162.000.000,00	162.000.000,00
DRUGS AND INSULIN	2.703.363.954,42	2.400.000.000,00
TREATMENT IN FOREIGN COUNTRIES	12.000.000,00	12.000.000,00
HOME CARE	126.856.386,92	126.856.386,92
AID FOR INVALIDS AND PROSTHETES	524.046.467,45	524.046.467,45
DIAGNOSTIC TESTING		
Inside of PHC	138.970.087,94	138.970.087,94
Outside of PHC		
TOTAL:		
MENTAL HEALTH AND PSYCHIATRIC TREATMENT	276.431.540,00	276.431.540,00
Number of hospitalization under age of 18 – 39.850 days		
Number of hospitalization over age of 18 - 592.367 days		
Forced hospitalization or treatment		
ADDICTION COST EXPENCES	<i>addict.prevention</i> 4.000.000,00	<i>addict.prevention</i> 4.000.000,00
General		
By the law of court		
Acute conditions (detoxification)		
POLICLINICAL AND SURGICAL OPERATIONS AND ORDINARY SURGERY		
CHEMOTHRAPY AND RADIOTHERAPY		
TRANSPLANTATIONS	21.341.395,77	21.341.395,77
STERILITY AND INFERTILITY CURING		
Basic diagnostics and therapy		
Artificial impregnation	19.550.000,00	19.550.000,00
TRANSPORTATION REFUND FOR THE COUSE OF HEALTH CARE		
TOTAL SUM	12.894.947.366,83	12.591.583.412,41
DIFFERENCE (save)	303.363.954,42	

Introducing basic and supplemental lists of drugs, apropos, including generic drugs into basic drugs lists that basic health insurance covers, it caused most polemics and attract most attention of wide publicity and of experts and media too.

That experiment of minister of resources has two effects: Government will save certain amount of money, but in same time, most of population will pay for extra services. If we know that Croatia has mostly older generation, and if there are more then 34% of retired, unemployed, users of social assistance, then a question rise: how and in what way will

health care be accessible and of quality.

Nevertheless, there is a trend all over the world, especially in most developed countries to encourage generic drugs. Ten of 15 states in European community introduced some form of generic substances in first quarter of 2004. USA long ago, in 1984 year established laws by which pharmacies can prescribe generic drugs if it is not notice otherwise. Among countries which joined European community in 2004 Poland allow generic substances, but Czech Republic allows it only if pharmacy do not have prescribed drug and there is an emergency.

5. ORIGINAL OR GENERIC DRUG

Generic drug is pharmaceutical product identical to original drug in sanative substance, dosage, efficiency, method of application, quality, pharmaceutical shape and indication. Therefore, generic drug has same effect as original drug. To release product into wide distribution pharmacists have to have necessary certificate for its homogeneous and quality.

Therapeutic substances of generic and original drug are same, so, only difference between them is in additives, biological inactive bonds that help therapeutic substances to form recognizable shape of pills, capsule or syrup. Other producer made that product under other brand and in different form. All producers' wants to be different from each other, so they making products in different forms, sizes, flavors and packages, but it does not have any influence on quality of medical therapy.

The number of new registered drugs is significantly small (in 2004 it was registered only 23 drugs, and in 2005, 30 drugs) but consumer demands are daily bigger and bigger. That is causing disproportion between available financial resources and ones for required drugs. Almost every country in the world is moving toward of using generic drugs. Simultaneously, new regulations are developing to prepare the entrance for new generic drugs on market.

In order to be present in market, generic drug has to have certain documentation altogether with application form for registration.

Republic of Croatia for registration of generic drug requests its full list of ingredients. That means to list active substance and additional substance, method description for drug production, producing procedure description, pharmaceuticals' results of tests of active substance and final generic product, certificate that generic drug is produced according to producing policy.

It is all, of course, controlled by strict lawful regulative for registration of generic drugs:

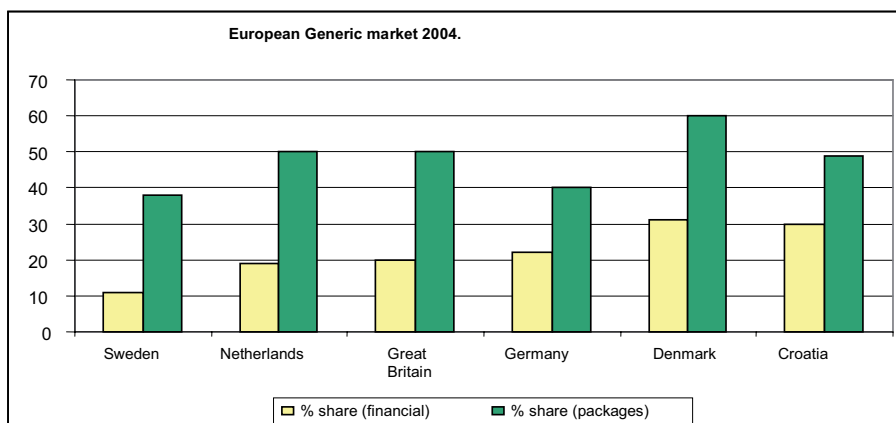
- Law about drugs and medical products («Narodne novine» nr. 121/03);
- Law about changes and annexes of the Law for drugs and medical products – «Data exclusivity» («Narodne novine» nr. 177/04);
- Statutes about procedure and methods of approval for final drug product and its public application («Narodne novine» nr. 143/98) and
- Statutes about special conditions for public application of final drug product in republic of Croatia that European community approved for European market as well («Narodne novine» nr. 86/04).

Croatian republic signed the document, «Data exclusivity» by which it can apply registration for generic drug after 8 years, but that drug can show on market after next 2 years (which is total of 10 years). In case that original drug transforms from state of «prescribed» in to «no prescription» (OTC) or if there is a registration of new indication, protection extends for one more year.

Along with above named documentations, it is necessary to attach documents about testing results about drug's bio disposability/bioequivalence, which is indeed, replacement for results given from clinical researches of origin drug.

USA using 50% of generic drugs and they saved between 16 and 20 billion USD for a year. That is 8 to 10% of total drug spending which is for them about 200 billions USD for a year.

Generic market in Europe is various in different countries, but through years, it grows. These countries are big consumers of generic drugs: Great Britain 50%, Denmark 60%, Germany 40%, Sweden 38%, and Nederland 50%. This is obvious in diagram bellow



Prices of original drug in comparison with generic drug, present situation according to data from drug registry in Croatia 49/2006, Zagreb – III/2006, Lajla Beucanić

ORIGINAL	PRICE (KN)	GENERIC	PRICE (KN)
ASPIRIN	8,04	ANDOL	5,19
XANAX 30x0,25mg	8,45	MISAR 30x0,25mg	7,61
CONCOR 30x5mg	48,00	BYOL 30x5mg	43,98
AUGMENTIN 1g	82,51	KLAVAX bid	65,50
PEPTORAN 10x30mg	39,70	RANIX 10x30mg	35,53

From this table we can see that prices for original drugs and generic ones are not significantly different in Croatia. New legal provisions enable major price degradation of generic drugs at the first place, and by the time, of original drugs too.

Usually, generic drugs have to be 30% cheaper from original, but if they are, they explicitly reducing the price of original drug. In the moment when patented original drug loosing trade mark, and when generic drug appears on market, original drug loosing its value on market, in average 60% in first year. It is logical that producer will fight to return lost market, but that can be done only by reducing the price of drug. Ultimate result is price reducing for both, original and generic drug.

6. CONCLUSION

Republic of Croatia on its way to re-organization of health care system pursued and still does many measures for more quality, more available, more efficient and cheaper health care. Introducing two drugs lists, apropos, generic drugs in basic drugs lists is only one step toward that goal. However, if they want to use all possibilities of generic drugs, they need to do much more observant and wider preparations. The preparations for prescription of generic drugs, for instance, in Great Britain, already last for 4 years. We are just at the beginning and therefore we have to be more systematic in gathering information's about generic drugs, so that we could remove most important and present prejudices among patients that generic drugs are less quality then original ones.

It is completely different question if this experiment was socially justified and how would patients pay for extra services, especially if they are retired, users of social care funds or unemployed. Therefore, question is how drugs and sophistic health inspections would be available to all, regardless of their social classes.

«Many people believe that if something is expensive, it surly must have higher quality. This is not correct regarding generic drugs. »

«Norms of quality for original drug and for generic one are same!

Garry Buehler, Director of department for generic drugs in FDA

7. LITERATURE

1. Zakon o obveznom zdravstvenom osiguranju („Narodne novine broj 85/2006)
2. Zakon o dobrovoljnom zdravstvenom osiguranju („Narodne novine broj 86/2006)
3. Nacrt prijedloga Zakona o obveznom zdravstvenom osiguranju, Minsitarstvo zdravstva i socijalne skrbi, Zagreb, svibanj 2006.
4. Nacionalna strategija razvitka zdravstva 2006. – 2001. godine
5. www.mzss.hr
6. www.hzjz.hr
7. Godišnjak 2005. Hrvatski zavod za zapošljavanje, Zagreb, travanj 2006.

References:

- B.C.R. privatization contract
- Bucharest Stock Exchange financial reports
- Trenca I. – Financial Management, Ed. Mesagerul, Cluj-Napoca 1997
- Transilvania Bank – Internal Report 2005
- www.kmarket.ro
- Law nr.133/1996

INTERNATIONAL FINANCIAL REPORTING STANDARD 5 –NON-CURRENT ASSETS HELD FOR SALE AND DISCONTINUED OPERATIONS

Luka Crnković, Professor
Ivo Mijoč, Assistant
Dražen Čučić, Assistant
Faculty of Economics in Osijek

SUMMARY

International Financial Reporting Standard 5 has the working title *Non-current assets held for sale and discontinued operations*. This financial reporting standard also represents a new group of standards along with the previous four, including existing International Accounting Standard, regardless if it concerns existing or revised standards, as a wish for further coordination of accounting regulations on world level. This idea is a concretisation of the wishes of International Accounting Standards Board, that at prior wish to establish specific rules in woods of existing rules imposing financial reporting standards as vital in financial reporting. This standard replaces existing International Accounting Standard 35 - *Discontinuing Operations* and achieves substantial convergence with the requirements of SFAS 144 Accounting for the Impairment or Disposal of Non-current Assets that are synonyms for assets held for sale, followed by specifying the conditions for its classification, and in the final are determined the ways of presentation and publishing of those type of activities. This way it is wished to reduce or at least abate the differences between US GAAP and International Financial Reporting Standards through joined short - term convergence project of American Accounting Standards and IFRS 5.

Keywords: International Financial Reporting Standard, International Accounting Standard, International Accounting Standards Board, US GAAP, non-current assets held for sale, discontinued operations.

1. INTERNATIONAL FINANCIAL REPORTING STANDARD 5

1.1. International Financial Reporting Standard 5 obligators - Non-current assets held for sale and discontinued operations

As all International Financial Reporting Standards, all obligators defined by Income Tax Law must apply this Standard as well as by the obligators whose securities are quoted on stock markets or planned to be included into the official exchange quotation in accordance with existing rules of Securities Market Law in The Republic of Croatia.

Other obligators failed to fulfil conditions, in accordance with existing regulations, may individually choose application of International Financial Reporting Standards in accordance with Article 18 of Accounting Law, published in Official Gazette number 146/05. An entity must start applying International Financial Reporting Standard 5 from 1st January 2005, but with earlier application permitted, which should be reported during the financial statements analysis.

Obligators forced to apply financial reporting standards in their business have „International Financial Reporting Standards 2004 on their disposal, including International Standards (IS) and Interpretations effective from 31st March 2004“ in edition of Croatian Association of Accountants and Financial Experts CAAFE from 2005.

1.2. Main characteristics of International Financial Reporting Standard 5 - Non-current assets held for sale and discontinued operations

With the purpose of easier understanding of this Financial Reporting Standard and better understanding of IFRS 5, imposed are the need and necessity to present its main characteristics in one place.

The main characteristics of International Financial Reporting Standard 5 are following:

1. This Standard introduces a new term into the usage; non-current assets held for sale and the concept of disposal groups, as a balance sheet category. Assets held for sale perceive every non-current asset held for sale within a disposal group. A disposal group mainly perceives: “a group of assets, which an entity intends to dispose of in a single transaction by sale or other way possibly with directly associated liabilities transferred with that transaction.

The group includes Goodwill gained with a business combination if the cash generating unit to which the goodwill is so allocated” is in compliance with International Financial Standard 36 – *Impairment of Assets* in revised section from 2004. If we read carefully the former definition, we could ask ourselves what is a cash generating unit? In compliance to

appendix A, consisting element of International Financial Reporting Standards page 536, it is said that it is the smallest group of assets that includes the asset and that generates cash inflows from continuing use that are largely independent of the cash inflows from other assets or groups of assets.

2. International Financial Reporting Standard 5 establishes the ways of measurement, classification and presentation of non-current assets held for sale and disposal through the same groups. It means that such assets held for sale and disposal are carried at the lower value of carrying amount and the fair value less costs to sell. Costs to sell, according to Appendix A of International Financial Reporting Standards, are defined as dependent costs in direct connection to the disposal of assets excluding financial costs and Income tax cost. Then, assets held for sale and disposal through groups (categories) are not depreciated, and are disclosed separately on the face of the balance sheet.

3. We have already mentioned several times that this financial reporting standard replaces IAS 35 - *Discontinuation of operation* and in relation to it prescribes following requirements:

- a) time of business classification changes and in relation to IAS 35 represents important change; it is defined as terminated from the moment when, for instance, selling contract becomes a compulsory for an entity.
- b) it prescribes the effects of discontinued operations to be presented separately in the profit and loss account, as a basic financial statement, and
- c) it does not anticipate the possibility of retroactive classification as a discontinued operation, but prohibits it.

Based on such defined main characteristics of this financial reporting standard we can easily determine the objective of IFRS 5.

1.3. Objective and operation area of International Financial Reporting Standard 5 - Non-current assets held for sale and discontinued operations

Up to now, we have witnessed there could be a specific objective conducted for every Standard. An objective set like this represents a synthesis of the content of entire Standard in short form and thereafter it is expanded and analysed through sub-objectives, which represent operation area of each Standard.

The main objective of this Standard is to define conditions and ways of accounting and classification of assets held for sale inside disposal groups and ways of publishing and presentation of the information about discontinuing operations of a business entity.

International Financial Reporting Standard 5 affects entire non-current assets and it is applied to all disposal groups according to point 2 of the Standard. The same standard

implies that non-current assets consist of tangible, intangible and financial assets according to IAS 1.58 – *Presentation of Financial Statements*, i.e. all assets are expected to be refinanced after 12 months.

When we are familiar with all important facts regarding International Financial Reporting Standard 5 operation area, we may attempt to define disposal groups (categories).

According to IFRS 5, disposal groups are categories of assets, which an entity intends to dispose of in a single transaction by sale or other way possibly with directly associated liabilities.

Observing disposal categories (groups) we may conclude that they could appear in the following form:

- “cash,, generating units
- single cash generating unit or
- only a part of a cash generating unit “¹

That way the group (category) may imply any kind or part of an asset i.e. liability with the belonging current assets², current liabilities and assets excluded by IFRS 5.5. To Excluded assets to which accepted elements of classification of disposal assets do not apply, following implies:

- a) ‘’according to IAS 12 – *Income tax* – deferred tax assets
- b) according to IAS 19 – *Employee benefits* – employee’s entitlements to benefits
- c) according to IAS 39 – *Financial instruments: Recognition and measurement* – entire assets according to this IAS.
- d) according to IAS 40 – *Investment property* – long- term property measured at fair value of this IAS.
- e) according to IAS 41 – *Agriculture* – long-term property measured at fair value less estimated point-of-sale costs
- f) according to IFRS 4– *Insurance contracts*- contractual rights coming from insurance contract in accordance to IFRS 4 points”³.

It is also important to say that according to this Standard non-current assets that may be written-off and depreciated, cannot classify as held-for-sale asset. This way we have

¹ Hrvatska zajednica računovođa i financijskih djelatnika: Međunarodni standardi financijskog izvješćivanja uključujući Međunarodne računovodstvene standarde i objašnjenja do 31.ožujka 2004., Zagreb, 2005., str.528

² According to Appendix A of IFRS 5, Current assets refer to the type of assets that satisfy any of the following criteria:

- a) It is expected to be converted or sold, or consumed in the normal operating cycle of subject,
- b) It is held primarily for trading,
- c) Its conversion is expected in 12 months after the date of the balance sheet or
- d) Cash or cash equivalent, unless prohibited for trading and for liabilities settlement at least twelve months after the date of the balance sheet.

³ Hrvatska zajednica računovođa i financijskih djelatnika: Međunarodni standardi financijskog izvješćivanja uključujući Međunarodne računovodstvene standarde i objašnjenja do 31.ožujka 2004., Zagreb, 2005., str.528.

narrowed the criteria for classification of assets held-for-sale, necessary to define for further research of this Standard that will be discussed in continuation.

1.3.1. Criteria for classification of assets held for sale, according to International Financial Reporting Standard 5- Non-current assets held for sale and discontinued operations

In accordance with the provisions of points 6-12 of International Financial Reporting Standard 5 there are several ways and approaches to determine the criteria for classification of assets held for sale inside disposal groups (categories).

Non-current assets of an entity may be classified as an asset held-for-sale sale if its book value can be recovered through sale instead of continuous consummation that wastes it.

In order to make the described way of classification of assets realistic, it is necessary to satisfy the criteria of classification of assets prescribed by points 7 and 8 of IFRS 5, classified as follows:

- a) asset or disposal group must be ready for sale in the existing condition with certain outcome, and that is a probable sale
- b) situation that prescribes the asset held for sale is very certain and probable, and must correspond to:
 - plan for the sale of an asset or a disposal group (category) and
 - management is committed to the program for locating potential buyers inside the entity.
- c) sales price of an asset or a disposal group (category) must be known and proportional to their fair value.
- d) the mentioned sale of an asset or a disposal group (category) must be conducted within a year, and
- e) there is a small or almost no probability of unpredictable situations that would cause deviation from prescribed plan or question the sales management plan.

Availability for immediate sales is considered as availability of an asset that meets the regular standards of such asset sale. There is a general rule for sale or transfer of asset; the longer is prolongation of sale or transfer of asset, the asset is less available for immediate or sudden sale, and no longer meets the criteria of immediate availability, and inversely - *ceteris paribus*.

The mentioned criterion is only one of the determinants that must be met due to determination of the criterion of classification of assets held-for-sale sale and there is the criterion that sales must be highly probable.

To make the sale in our example probable, the management of an entity must precisely and on the level define a business plan for the treated asset or the disposal group (category) that imply locating of potential buyer/s and conducting the original plan with a small probability of deviation from the planned.

In variable market conditions and due to different unpredictable market situations, the mentioned time limit for sales of an asset or a disposal group (category) may sometimes exceed the planned one-year time limit. According to the Standard, such deviation is allowed only in case of vis major, though even then there must be valid reasons for exceeding the time-limit, while on the other hand there must be enough strength to conduct the coordinated and agreed operation plan for sale completely.

Due to unpredictable situations and market transactions sometimes may happen that the traded asset is prescribed for further sale i.e. resale and a few words should be said about that.

1.3.1.1. Assets traded for further sale - RESALE according to International Financial Reporting Standard 5- Non-current assets held for sale and discontinued operations

According to IFRS 5.3, non-current asset primarily traded to be sold again or resold must not classify as current asset until it becomes classified as held-for-sale. According to point 11 of International Financial Reporting Standard 5 such asset may be reclassified and re-held-for-sale if the time limit is effective from the day of supply, usually inside one quarter, is met.

If the preceding conditions are met after the date of the balance sheet, the asset cannot be classified as held-for-sale, whereas in the contrary it the asset has the status of held-for-sale/ resale and the entity must announce the information in notes prescribed by points 41a, 41b, 41c that imply:

- ‘description of the non-current assets,
- description of the facts and circumstances under which the sale was conducted or that led towards the expected disposal,
- profit or loss from asset evaluation unless separately disclosed in the profit and loss account, and
- if applicable; a part of an entity whose non-current asset or the disposal group (category) is in compliance with IAS 14 – ***Segment reporting***’⁴

⁴ Croatian Association of Accountants and Financial Experts: International Financial Reporting Standards including Interpretation of International Accounting Standards effective from 31st March 2004, Zagreb, 2005, pg.534.

An asset acquired in such way and held for further sale – resale of subsidiaries which thus satisfies the criteria from point 11 may be classified as a disposal group (category) held-for-sale.

1.4. Measuring of non-currents assets held for sale, according to International Financial Reporting Standard 5-Non-current assets held for sale and discontinued operations

Up to now we have been constantly mentioning in this Standard that non-current asset is held for sale inside disposal groups (categories). A logical question is imposing; how is the asset measured and how are disposal groups (categories) defined?

Measuring of non-current asset held for sale is conducted upon International Financial Reporting Standard 5, at lower value from:

1. book value or
2. fair value less costs to sale.

Prior to initiating the classification of an asset or disposal groups (categories) held for sale, «book value of assets should be measured in compliance with appropriate International Financial Reporting Standard that is applied⁵. » If an asset is acquired as the result of a business combination, it will be measured at fair value less costs to sale.

After classification of non-current asset to held for sale, the asset is not a subject to depreciation, in accordance with IFRS 5.25 i.e. IFRS 5 which prescribes:

«An entity shall not depreciate (or amortise) a non – current asset while it is classified as held for sale while it is part of a disposal group classified as held for sale.»

Such asset is defined as a newly acquired asset that should be classified in order to be held for sale, and in accordance with IFRS 5.16 it is conducted in the way that at initial recognition an asset is measured at value lower than the cost to supply (book value) or at fair value less cost to sell arising from sale of asset classified as held for sale.

In case of additional measurement of an asset or a disposal group (category) and in accordance with IFRS 5.19 book value of an asset or liabilities that are out of the frame of the measurement principles of IFRS 5 must be carried in compliance with an appropriate International Financial Reporting Standard.⁶

It is a general opinion that value of assets measured at fair value gives much better information than the information gathered by value of assets measured at fair value less cost to sell i.e. by lower than book value.

⁵ Ibidem, pg. 530, article 18.

⁶ For details refer to chapter Objective and Operation Area of International Financial Reporting Standard 5 – Non-current Asset Held to Sale and Discontinued Operation.

Subsidiaries classified as held-for-sale asset also represent a disposal group (category), and their measurement is conducted in compliance with the requirements of International Financial Reporting Standard 5.

1.5. Recognition of profits and losses incurred by depreciation and writing off, according to International Financial Reporting Standard 5- *Non-current assets held for sale and discontinued operations*

Any incurred loss that arises on non-current asset held for sale at fair value less costs to sell, is recognized in the profit and loss account for all deductions in accordance with Article 20 of International Financial Reporting Standard 5.

In accordance with article 21 of this IFRS and IAS 36 – *Impairment of assets*, in case of additional increase of value of asset, profits are recognized and disclosed in the profit and loss account, but at their fair value less costs to sell i.e. at corrected level of earlier recognized losses from deduction. Profits and losses implying to certain disposal group (category) are recognized at book value of treated non-current asset in compliance with the provisions and articles of IFRS 5, and points 104a, 104b and point 122 of IAS 36- *Impairment of assets*.

Preceding points of IAS 36 say that due to loss impairment, Goodwill is reduced first and the unarranged value of the asset is allocated to the asset with similar characteristics in proportion to its book value. Profits incurred through sale of an asset increase its fair value and are equally allocated to the asset, but not to Goodwill, and that imposes important difference between recognition of incurred profits and losses.

In article 24 of IFRS 5 it is discussed what happens with unrecognized profits and losses until the date of the sale of non-current asset. In such situations their recognition is prescribed at the moment of disposal and the procedure and requirements are described by points 67-72 of IAS 16- *Property, Plant and Equipment*, whereas in case of intangible assets according to IAS 38 the treatment is conducted in accordance with points 112-117.

Analyzing the prescribed requirements in preceding points of IAS 16 and IAS 38 we may conclude that profits and losses at the moment of disposal are attributed to profit or loss at the moment of disposal and represent the difference between accomplished net profit of disposal and book value or fair value in case classified asset held for sale is measured at fair value less costs to sell in accordance to article 15 of International Financial Reporting Standard 5.

1.6. Presentation and announcement of assets according to International financial reporting standard 5- *Non-current assets held for sale and discontinued operations*

Discontinued operations in The Republic of Croatia are usually a consequence of primary performed bankruptcy, followed by liquidation which represents cancellation of that entity from the registry administrated on the nearby Commercial Court and thus the entity stops existing.

This Standard introduces the term Suspended activity into the usage and represents "an organizational component that is not disposed or held for sale, but

1. represents a separate significant business operation or geographical area of operation,
2. it is part of the uniquely coordinated plan of disposal of separate significant business operation or geographical area of operation or
3. it is about a subsidiary acquired exclusively for the purpose of sale."⁷

In accordance to article 31 of IFRS 5, a component of an entity includes operations and cash flows that may be clearly, operationally and for the purpose of financial reporting distinguished from other entities. Therefore, the organizational component inhere will be already mentioned unit/s that generate/ s cash and has a sale character.

It is important to mention here that an entity is obliged to announce the information in case of discontinued and continued operation.

In case of discontinued operation the entity must follow article 33 of IFRS 5 described on pages 532 and 533 and it is obliged to announce following information on the face of the profit and loss account and in the notes of financial statements.

In accordance with the preceding article the entity must announce following information in the profits and loss account:

1. Unique amount, which implies:

- a) the sum of the post-tax profit or loss of the discontinued operation and
- b) the sum of the post-tax profit or loss recognised on the measurement at market value less costs to sell or based on disposal of asset as act of a discontinued operation.

In accordance with article 33, in the notes of financial statement an entity must disclose following:

2. analysis of unique amount from point 1, in:

- a) revenue, expenses, pre-tax profit or loss from discontinued operations,

⁷ Hrvatska zajednica računovođa i financijskih djelatnika: Međunarodni standardi financijskog izvješćivanja uključujući Međunarodne računovodstvene standarde i objašnjenja do 31.ožujka 2004., Zagreb, 2005., str.532.

- b) and related income taxes in accordance with point 81 of IAS 12 – *Income taxes*,
- c) profit or loss recognized on the measurement to market value less cost to sell or based on disposal of the asset that is the act of discontinued operation, and
- d) related income tax in accordance with point 81 of IAS 12 – *Income taxes*,

3. The net cash flows attributable to the operating, investing and financial activities of discontinued operation.

IFRS 5.34 prescribes for an entity to repeat the presentation of the information from the preceding categories 1-3 entitled to the earlier periods disclosed in financial statements.

The current year adjustments related to earlier presented amounts in article 33 are prescribed by IFRS 5.35.

In case of continued activity an entity must meet IFRS 5.37 in the way that acquired profit or loss appearing as a consequence of additional measurement of asset or group (category) for disposal held for sale, presents as profit/ loss from continued operation.

1.6.2. Presentation and announcement of non-current asset or groups for disposal classified as held for sale of asset according to International Financial Reporting Standard 5 – Non-current assets held or sale and discontinued operations

Non-current asset classified as held-for-sale and asset from disposal groups (categories) are disclosed in the basic financial statement – balance sheet, separately from other types of asset normally presented in the balance sheet.

This standard has also prescribed a presentation of arising liabilities of groups (categories) for disposal separately from other liabilities normally presented on the right or passive side of the balance sheet. In accordance with IFRS 38.5 an obligation has been prescribed to disclose the main types of assets and liabilities classified for sale also separately and in two ways: in the balance sheet itself or in the notes of financial reports.

If during business operations a subsidiary has been acquired, as a group (category) for disposal, there is not an obligation prescribed for announcement of main types of asset and liabilities thus synchronised with IFRS 5.39.

As a need for presentation of information of prior period, this Standard in accordance with IFRS 5.40 does not oblige an entity to a new classification or reclassification, nor repeated disclosure of assets, liabilities and groups (categories) for disposal classified as held for sale in the balance sheet for prior periods.

2. CONCLUSIONS

International Financial Reporting Standard 5 has replaced earlier existing International Accounting Standard 35 – *Discontinuing Operations*. If we remind ourselves of the beginning of elaboration of this Standard we will see that IFRS 5 has a working title *Non-current assets held for sale and discontinued operations*. Simultaneously, the Standard introduces a new balance term and category called Non-current assets held to sale.

Within its activity and transitional provisions this Standard not only is it used on entire non-current asset defined by The Accounting Law, but also on the groups (categories) for disposal that classify and predict asset for sale with certain exceptions. On the other hand, this Standard excludes writing offs and depreciation of non-current asset where we come to conclusion that this type of asset (written off and depreciated) cannot be classified as asset held for sale. Therefore, application of deprecation and accompanied calculations is stopped.

Non-current assets characterized as held for sale is measured at lower value from purchased or book value or at fair value less costs that have sales character. In comparison to IAS 35 – *Discontinued operation*, IFRS 5 prescribes following:

1. changes classification time to discontinued,
2. introduces a new way of presenting results of discontinued operation, separately in the profit and loss account, and
3. prohibits repeated classification of business operation of an entity if conditions are not met by the date of the balance sheet.

Accepting opinions and attitudes of International Accounting Standards Board (IASB) and SFAS, an operation should be considered discontinued when in contrast with the above written and according to a lot of authors these are: disposal or sales.

3. LITERATURE

1. Cairns, D. (1996.): Vodič za primjenu međunarodnih računovodstvenih standarda, Faber & Zgombić Plus, Zagreb.
2. Cashin, J. (1996.): Financijsko računovodstvo I i II, izdanje Faber & Zgombić Plus, Zagreb.
3. Crnković, L., Martinović, J. (1999.): Financijsko računovodstvo, Ekonomski fakultet u Osijeku, Osijek.

4. Cumming, J., Clayton, H.: Intermediate Accounting, McGraw hill, Inc. New York, 1992.
5. Deželjin Ja., Džajić, Lj, Mrša, J., Proklin, P., Peršić, M. i Spremić, I. (1995.): Računovodstvo, Hrvatska zajednica računovođa i financijskih djelatnika, Zagreb.
6. Direktive EEZ (EU) - IV. i VII. direktiva (smjernica)
7. Glenn A. Welsch, Daniel G. Short: Fundamentals of financial accounting, Irwin, Homewood, 1987.
8. Greuning, Hennie van (2006.): Međunarodni standardi financijskog izvješćivanja: praktični vodič, Novo revidirano izdanje , Zagreb.
9. Grupa autora (2006.): Vodič za prvu primjenu Međunarodnih standarda financijskog izvještavanja i revidiranih Međunarodnih računovodstvenih standarda, Zagreb.
10. Hrvatska zajednica računovođa i financijskih djelatnika (2005.): Međunarodni standardi financijskog izvješćivanja uključujući Međunarodne računovodstvene standarde i objašnjenja do 31. ožujka 2004., Zagreb.
11. Kenneth, R. Ferris (1987.): Financial Accounting and Corporate Reporting, Business publications, Inc, Piano, Texas.
12. Kenneth, R. Ferris: Financial Accounting and Corporate Reporting, Business publications, Inc, Piano, Texas, 1987.
13. Kljaić, B.: Rječnik stranih riječi. Zora, Zagreb
14. Kodeks računovodstvenih načela, Hrvatska zajednica računovođa i financijskih djelatnika.
15. Međunarodni računovodstveni standardi (Narodne novine br. 65/96. 105/97,39/97. i 3/99.).
16. Međunarodni standardi financijskog izvještavanja, (Narodne novine br. 140/2006.).
17. Meigs & Meigs (1999.) : Računovodstvo: temelj poslovnog odlučivanja, 9 izdanje,Mate, Zagreb.

18. Napoleoni, C. (1982.): Ekonomska misao dvadesetog stoljeća. Centar za kulturnu djelatnost, Zagreb.
19. Štahan, M. (2006.) : “Tko su obveznici primjene MSFI-a, a tko “starih” MRS-ova?”, *Financije i porezi*, br. 7.
20. Zager, K., Žager, J. (1996.): Računovodstveni standardi, financijski izvještaji i revizija, Inženjerski biro, Zagreb.
21. Zakon o porezu na dobit (Narodne novine br. 35/95).
22. Zakon o porezu na dohodak (Narodne novine br. 25/95 i dalje).
23. Zakon o računovodstvu (Narodne novine br. 146/05).
24. Zakon o trgovačkim društvima (Narodne novine br. 111/93).

OPERATIONS MANAGEMENT

MEHRFACHKRITERIEN-FUZZY LINEARES PROGRAMMIEREN*

Prof. dr. Dražen Barković
Faculty of Economics in Osijek

1. EINFÜHRUNG

Beim mathematischen Programmieren stellen sich Probleme oftmals als die Optimalisierung einer Funktion mit gegebenen Einschränkungen. Die Entwicklung der Lösungsmethoden orientierte sich an mathematischen Programmen mit einer Zielfunktion, wie z.B. die Simplex-Methode beim linearen Programmieren. Bei der Anwendung des mathematischen Programmierens gerät der Entscheidungsträger im wahren Leben in solche Situationen, in denen mehrere Zielfunktionen berücksichtigt werden müssen. Um zu einem Modell zu kommen, bei dem mithilfe einer Zielfunktion Probleme mit mehreren Zielfunktionen gelöst werden, müssen diese auf bestimmte Art und Weise zu einer Zielfunktion kombiniert werden.

Viele Probleme in operationellen Untersuchungen, in der Wissenschaft über Entscheidungsfindung, dem Engineering und dem Management wurden vom Aspekt der Optimierung her untersucht. Da Entscheidungsfindung unter starkem Einfluss gesellschaftlicher und wirtschaftlicher Umstände steht, ist der gewählte Optimierungsprozess nicht immer der beste. Aufgrund dieser Einflüsse werden viele Probleme mangelhaft definiert, sodass es besser ist, statt Optimierung einen Ansatz, der von Zufriedenheit ausgeht, anzuwenden. Diesbezüglich wäre es akzeptabel, ein Aspirationsniveau auf Grund der vergangenen Erfahrungen und des gegenwärtigen Wissens des Entscheidungsträgers zu erarbeiten, und zwar für den Fall, in dem das Aspirationsniveau bei der Problemlösung vom Blickwinkel der Zufriedenheitsstrategie mit eingeschlossen wäre. Deshalb ist es natürlicher, dass der Entscheidungsträger (ET) die Unschärfe des fuzzy Systems mit fuzzy Zahlen benennt.

In Prozessen der wirklichen Entscheidungsfindung im Engineering und der Geschäftstätigkeit wird die Entscheidungstheorie zu einer der wichtigsten Anwendungsbereiche. Sie nutzt die Optimierungsmethode, die mit einzelnen Kriterien verbunden ist, jedoch die Konzeption der mehrfachen Zielsetzungen befriedigt. Der Entscheidungsprozess mit Mehrfachzielsetzungen arbeitet anhand von menschlichen Einschätzungen (judgment). Dies ist tatsächlich sehr schwer zu modellieren. Der ET definiert das Element der menschlichen Einschätzung auf der Grundlage von

* The presented results are the outcome of the following project: Regional University (No.)
The paper was written in the scope of the project: Regional University (No. 010-0101427-0837).

Präferenzen.² Der erste Versuch des Modellierens eines Entscheidungsprozesses mit Mehrfachzielsetzung in Geschäftsaktivitäten und dem Engineering führt zur Konzeption des mehrfachen fuzzy linearen Programmierens. Bei diesem Ansatz unterstützt der ET jedes Ziel mit den goals, die befriedigt werden müssen. Die Zufriedenheit verlangt die Lösung des mehrfachkriteriellen Problems, das bevorzugt, verstanden und mit Vertrauen angewendet werden kann. Das Vertrauen darin, dass die bestmögliche Lösung gefunden wurde, wird anhand der idealen Lösung abgeschätzt. Das ist die Lösung, die simultan alle Kriterien optimiert.

2. FUZZY LINEARES PROGRAMMIEREN

Lineares Programmieren stellt eine häufige Form des Problems der Entscheidungsfindung dar. Da man gewöhnlich mithilfe mathematischer Methoden zu seiner Lösung gelangt, wie z.B. der Simplex-Methode, liegt der Gedanke nahe, dass das Problem nur dann gelöst werden kann, wenn es klar formuliert ist. Hier werden wir zeigen, dass das nicht die Regel ist und dass man beim linearen Programmieren ebenfalls die Eigenschaft der fuzzy (unscharfen) Formulierung des Problems beibehält. Die klassische fuzzy Formulierung des linearen Programmierens geht von der üblichen Formulierung des linearen Programmierens aus³:

$$\begin{array}{ll} \text{Zielfunktion:} & \max z = c^T x \\ \text{Nebenbedingungen:} & A x \leq b \\ & x \geq 0 \end{array} \quad (1)$$

mit:

- c - Zielfunktionskoeffizientenvektor
- A - Koeffizientenmatrix
- x - Variablenvektor
- b - Randspaltenvektor

Die Restriktion $a_i^T x \leq b_i$ besagt, dass der Wert b_i nicht auf Grund irgendeiner

Entscheidung, die sich im Vektor x niederschlägt, überschritten werden darf. Die Fuzzy Logik erlaubt dagegen eine Restriktionsüberschreitung um maximal d_{bi} verbunden mit folgender Aussage: Überschreite „möglichst“ nicht b_i , auf keinen Fall $b_i + d_{bi}$. Für eine lineare Zugehörigkeitsfunktion einer Restriktionsgrenze ergibt sich⁴

² Chankong, V., Haimes, Y.: Multiobjective decision making: theory and methodology, North-Holland, New York, 1983.

³ Barković, D.: Operacijska istraživanja, Ekonomski fakultet u Osijeku, Osijek, 1997., S. 387-389

⁴ Buscher, U., Roland, F.: Fuzzy Sets in der linearen Optimierung, Wist, Nummer 6, 1993, S. 314.

$$f_i(a_i^T x) = \begin{cases} 0 & \text{za } a_i^T x \geq b_i + d_{bi} \\ 1 - \frac{a_i^T x - b_i}{d_{bi}} & \text{za } b_i < a_i^T x < b_i + d_{bi} \\ 1 & \text{za } a_i^T x \leq b_i \end{cases} \quad (2)$$

Mit der Angabe der Zugehörigkeitsfunktionen verbindet sich das Ziel, die Kapazitätsüberschreitung d_{bi} gering zu halten, so dass aus den ursprünglichen Restriktionen Fuzzy-Zielfunktionen werden. Das hierdurch entstehende Mehrzieloptimierungssystem strebt für jede neue Fuzzy-Zielfunktion eine möglichst hohe Zufriedenheit an. Das sich ergebende Problem besteht darin, die verschiedene Ziele miteinander zu vergleichen. Auf der einen Seite wird versucht, den Zielfunktionswert z der ursprünglichen (scharfen) Zielfunktion zu maximieren, während auf der anderen Seite eine möglichst hohe Zufriedenheit des Entscheidungsträ bezüglich der Restriktionen erreicht werden soll.

Für die Lösung dieses Konfliktes bietet es sich an, die Zufriedenheit des Entscheidenten bezüglich verschiedener Zielfunktionswerte z_j ebenfalls mit Hilfe einer Zugehörigkeitsfunktion abzubilden. Die Bestimmung des Verlaufes der Bewertungsfunktion werden wiederum zwei Anhaltspunkte gebraucht. Erstens wird ein Zielfunktionswert benötigt, der auf keinen Fall unterschritten werden soll (z_{\min}), und zweitens der Wert, der nicht überschritten werden kann und mit dem der Entscheident folglich vollständig zufrieden sein muß (z_{\max}). Der minimale Zielfunktionswert ergibt sich, wenn im Optimierungsprozeß bei keiner Restriktion eine Überschreitung der Kapazitäten zugelassen wird ($d_{bi}=0$). Entsprechend wird der maximale Zielfunktionswert erreicht, wenn die möglichen Restriktionsüberschreitung bei der Optimierung vollständig ausgenutzt werden können.

Die Zugehörigkeitsfunktion der Zielfunktion hat damit folgendes Aussehen:

$$f_z(c^T x) = \begin{cases} 0 & \text{za } c^T x \leq z_{\min} \\ \frac{c^T x - z_{\min}}{z_{\max} - z_{\min}} & \text{za } z_{\min} < c^T x < z_{\max} \\ 1 & \text{za } c^T x \geq z_{\max} \end{cases} \quad (3)$$

Die aus den Restriktionen und der Zielfunktion abgeleiteten Zugehörigkeitsfunktionen sind zueinander in Beziehung zu setzen. Die Zugehörigkeitswerte spiegeln den Grad der Zufriedenheit des Entscheidungsträgers wider. Hierbei stellen eine geringe (hohe) Überschreitung der ursprünglichen Restriktionsgrenzen b_i und eine hohe (niedrige) Zielfunktionswert gegenläufige Zielsetzungen dar, die zu einer neuen Zielfunktion zu aggregieren sind. Unter Berücksichtigung des Minimum-Operator wird dieses Problem mehrfacher Zielsetzung durch Maximierung der Gesamtzufriedenheit σ gelöst

$$\sigma(x) = \min(f_z(c^T x), f_1(a_1^T x), \dots, f_m(a_m^T x)) \Rightarrow \max \quad (4)$$

Entsprechend der Vorgehensweise des Minimum-Operators ist σ der schlechteste Zugehörigkeitswert, der einer der Zielsetzungen zugeordnet wird. Durch die Maximierung der minimalen Zufriedenheit ist sichergestellt, daß es keine Lösung x gibt, die simultan die gegenläufigen Zielsetzungen auf ein höheres Mindestzufriedenheitsniveau σ bringt.

Dieser Ansatz läßt sich in Form des folgenden Optimierungssystems darstellen:

$$\begin{aligned} & \max \sigma \\ & \sigma \leq f_z(c^T x) \\ & \sigma \leq f_i(a_i^T x) \text{ za } i = 1, \dots, m \\ & x \geq 0 \end{aligned} \quad (5)$$

Die oben ermittelten Zugehörigkeitsfunktionen werden in dieses neue Optimierungssystem eingesetzt und so umgeformt, daß alle Entscheidungsvariablen auf der linken Seite stehen

$$\begin{aligned}
 & \max \sigma \\
 & (z_{\max} - z_{\min})\sigma - c^T x \leq -z_{\min} \quad (6) \\
 & d_{\delta i}\sigma + a_i^T x \leq b_i + d_{\delta i}
 \end{aligned}$$

Die Vorgehensweise soll an einem Beispiel illustriert werden⁵

A. Es ist notwendig, die Fläche eines Parkplatzes zu erweitern. Folgende Daten sind bekannt: Zur Verfügung stehen insgesamt 3050 m² Fläche, die auf drei verschiedene Weisen genutzt werden kann:

1. Es werden Unterstellräume aufgestellt, die verschlossen werden können.
2. Es werden Unterstellräume aufgestellt, die beheizt und abgeschlossen werden können.
3. Es werden Garagen eingerichtet, die beheizt und abgeschlossen werden können.

Der Investor kann einen Kredit bis maximal 160.000 GE (Geldeinheiten) aushalten, mit dem er die Kosten zur Einrichtung der oben erwähnten Unterstellräume bzw. Garagen finanzieren würde, und zwar respektive 200 GE, 400 GE und 800 GE je Unterstellraum bzw. Garage. Die Parzellierung der Gesamtfläche in Unterstellräume und Garagen unterliegt natürlich der Begrenzung durch die 3050 m² und die benötigte Fläche (in Quadratmeter, die die Unterstellräume bzw. Garagen einnehmen), und zwar:

für Unterstellräume des Typs 1	6,4 m ²
für Unterstellräume des Typs 2	7,6 m ²
für Garagen	9,0 m ²

Mit einberechnet sind die Zufahrts- und Ausfahrtswege. Durch Anmietung erhalten die Nutznießer das Recht darauf, ihr Kraftfahrzeug hier zu verwahren. Wegen der unterschiedlichen Höhen der Mieten kann jeder Nutznießer

den Unterstellraum des Typs 1 nur	30 Minuten
den Unterstellraum des Typs 1 nur	1,5 Stunden
die Garagen des Typs 3 nur	10 Stunden

⁵ Zimmermann, H. J., Rödter, W.: Analyse, Beschreibung und Optimierung von unscharf formulierten Problemen, Zeitschrift für Operations Research, Vol. 21, 1977, S. 14 - 17.

je einen Monat anmieten. Die Kapazität der Verwahrungsdienstleistung beträgt 525 Stunden monatlich.

Wenn der Investor von der Miete je Parkplatzeinheit pro Monat (40 GE, 50 GE, 200 GE) die monatlich anfallenden Kosten (Kapital, Versicherungsprämien, Heizung) abzieht, erhält er einen Mietüberschuss von 10 GE, 12.5 GE und 22.5 GE.

Das Ziel des Investors besteht darin, diesen Mietüberschuss zu maximieren, wobei die Entscheidungsvariablen die verfügbare Zahl der Unterstellräume der Typen 1 und 2 und der Garagen des Typs 3 sind.

Dieses Problem stellt sich in der Formulierung des linearen Programmierens folgendermaßen:

$\max z = 10x_1 + 12.5x_2 + 22.5x_3$
$200x_1 + 400x_2 + 800x_3 \leq 160000$
$6.4x_1 + 7.6x_2 + 9x_3 \leq 3050$
$0.5x_1 + 1.5x_2 + 10x_3 \leq 525$
$x_1, x_2, x_3 \geq 0$

Ergebnis:

ZIELFUNKTIONSWERT

1) 5025.840

VARIABLE	WERT	REDUZIERTE KOSTEN
X 1	433.193268	0.000000
X 2	0.000000	0.197479
X 3	30.840336	0.000000

B. Bei einer gründlicheren Untersuchung des Problems stellt sich Folgendes heraus:

1. Das Ziel sollte nicht unbedingt die Maximierung der Miete sein; man könnte sich mit einer „angemessenen“ Summe zufrieden stellen. „Angemessen“ wird so spezifiziert, dass der Mietsüberschuss mindestens 4400 GE beträgt. Der Investor

ist vollkommen zufrieden mit einem Überschuss von 4800 GE.

2. Der Investor kann problemlos einen Kredit in einer Höhe von 14000 GE beschaffen, aber die Summe von 160000 GE kann er nicht ohne Schwierigkeiten beschaffen.
3. Die für den Parkplatz vorgesehene Fläche sieht lediglich die notwendigste Fläche für den Zufahrtsweg vor. Wenn man eine größere Fläche vorsehen würde, könnte man einen leichteren Zufahrtsweg für die Nutznießer des Parkplatzes einrichten. Ein Optimum an Komfort würde man erzielen, wenn man weitere 5 % an Fläche als Zufahrtsweg vorsehen würde.
4. Die vorgesehene maximale zeitliche Beschränkung der Verwahrungsdienstleistung darf nicht überschritten werden. Aus besonderen Gründen würde man diese Dienstleistung gerne mit mindestens 475 Stunden/Monat belasten.

Aufgrund der dargestellten Daten und Überlegungen über dieses fuzzy (unscharfe) lineare Programm stellt man Zugehörigkeitsfunktionen für Ziel und Beschränkungen:

Tabelle 1. Charakterisierung der Zugehörigkeitsfunktion

	$f_z(c^Tx) = 0$	$f_z(c^Tx) = 1$
Zielfunktion	4400	4800
	$f_i(a_i^Tx) = 0$	$f_i(a_i^Tx) = 1$
Beschränkung 1	160000	144000
Beschränkung 2	3050	2897
Beschränkung 3	525	475

Das äquivalente fuzzy lineare Programm lautet:

$$\begin{aligned}
 & \max \sigma \\
 & 400\sigma - 10x_1 - 12.5x_2 - 22.5x_3 \leq -4400 \\
 & 16000\sigma + 200x_1 + 400x_2 + 800x_3 \leq 160000 \\
 & 153\sigma + 6.4x_1 + 7.6x_2 + 9.0x_3 \leq 3050 \\
 & 50\sigma + 0.5x_1 + 1.5x_2 + 10x_3 \leq 525 \\
 & x_1, x_2, x_3 \geq 0
 \end{aligned}$$

Ergebnis:

ZIELFUNKTIONSWERT

1) 0.9291083

VARIABLE	WERT	REDUZIERTE KOSTEN
σ	0.929108	0.000000
X 1	416.3287	0.000000
X 2	0.000000	0.000293
X 3	27.038019	0.000000

Die optimalen Lösungen dieses Modells, auf ganze Zahlen abgerundet, lauten demzufolge: $x_1 = 416$, $x_2 = 0$, $x_3 = 27$, $\sigma = 0.94$ GE. Der Wert der Zielfunktion ist $z = 4767.50$ GE.

Die Einführung „scharfer“ Begrenzungen in den Beschränkungen (Restriktionen) beim Optimierungsproblem stellt lediglich einen Spezialfall der fuzzy Beschränkungen dar. In diesem Fall entspricht die Obergrenze des Intervalls der Untergrenze $db_i = 0$. Neben dem linearen Verlauf der Zugehörigkeitsfunktion, die hier berücksichtigt wurde, ist noch eine weitere nichtlineare Form möglich.

3. MEHRFACHKRITERIEN FUZZY LINEARES PROGRAMMIEREN

Eine besonders nützliche Methode beim Lösen mehrfachkriteriellen linearen Programmierens nutzt fuzzy Mengen. Als Illustration verwenden wir das Problem des linearen Programmierens mit zwei Zielfunktionen⁶.

Eine Firma hat eine Fabrik, die drei Produkte erzeugt. Zur Herstellung einer Tonne des Produkts 1 werden 2 t des Rohstoffs 1, drei Tonnen des Rohstoffs 2 und vier Tonnen des Rohstoffs 3 benötigt. Um eine t (Tonne) des Produkts 2 herzustellen, benötigt man

8 Tonnen des Rohstoffs 1 und eine Tonne des Rohstoffs 2. Zur Herstellung einer Tonne des Produkts 3 benötigt man vier Tonnen des Rohstoffs 1, vier Tonnen des Rohstoffs 2 und zwei Tonnen des Rohstoffs 3. Zur Verfügung stehen 100 t des Rohstoffs 1, 50 t des Rohstoffs 2 und 50 t des Rohstoffs 3.

Bei heutigen Preisen will die Firma das Produkt 1 zu 5m/Tonne, das Produkt 2 zu 10m/t und das Produkt 3 zu 12m/t verkaufen. Doch im Verlauf des Produktionsprozesses führte die Herstellung 1t des Produktes 1 zur Entstehung von 1 Tonne schädlicher Abfallstoffe, die Herstellung 1t des Produkts 2 zur Entstehung von 2 Tonnen schädlicher Abfallstoffe,

⁶ Kirsch, D.A.: Fuzzy sets in multiobjective optimization, <http://members.tripod.com/KirschD/FUZZY.htm>

und die Herstellung des Produkts 3 zur Entstehung von 2t schädlicher Abfallstoffe. Die Zielsetzung der Firma ist, die Gesamteinnahmen zu maximieren und dabei die gesamte erzeugte schädliche Belastung zu minimieren.

Dieses Problem kann mit folgendem, mehrfachkriteriellem linearem Programm ausgedrückt werden:

$$\max z_0 = 5x_1 + 10x_2 + 12x_3$$

$$\min z_1 = x_1 + 2x_2 + 2x_3$$

$$2x_1 + 8x_2 + 4x_3 < 100$$

$$3x_1 + x_2 + 4x_3 < 50$$

$$4x_1 + 2x_3 < 50$$

Durch das gesonderte Lösen einzelner Zielfunktionen, bzw. durch die Maximierung nur der ersten Zielfunktion und die Vernachlässigung der anderen:

$$\max z_0 = 5x_1 + 10x_2 + 12x_3$$

$$2x_1 + 8x_2 + 4x_3 < 100$$

(Problem 1)

$$3x_1 + x_2 + 4x_3 < 50$$

$$4x_1 + 2x_3 < 50$$

Ergebnis:

ZIELFUNKTIONSWERT

1) 200.0000

VARIABLE	WERT	REDUZIERT KOSTEN
X 1	0.000000	3.000000
X 2	7.142857	0.000000
X 3	10.714286	0.000000

und durch die Minimierung nur der zweiten Zielfunktion, wobei wir die erste vernachlässigen:

$$\min z_1 = x_1 + 2x_2 + 2x_3$$

$$2x_1 + 8x_2 + 4x_3 < 100$$

(Problem 2)

$$3x_1 + x_2 + 4x_3 < 50$$

$$4x_1 + 2x_3 < 50$$

erhalten wir das offensichtliche Ergebnis

ZIELFUNKTIONSWERT

1) 0.0000000E+00

VARIABLE	WERT	REDUZIERTE KOSTEN
X 1	0.000000	1.000000
X 2	0.000000	2.000000
X 3	0.000000	2.000000

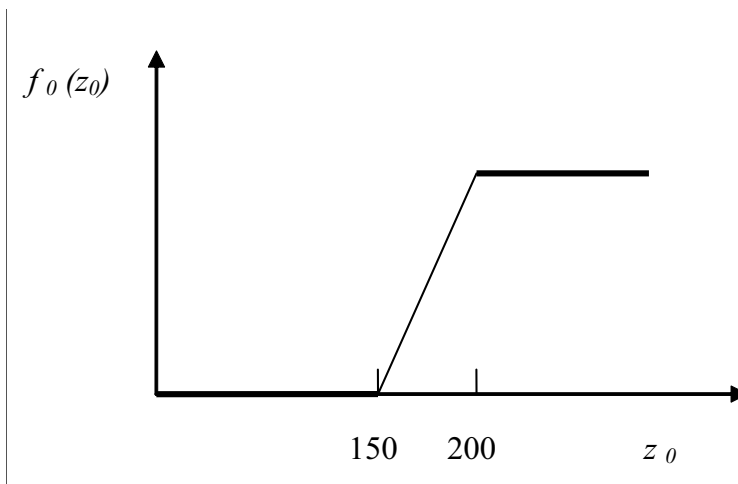
Im Problem 1) erhielten wir maximale Einnahmen von 200 Millionen, doch erzeugten auch 35.71 Tonnen schädlicher Abfallstoffe. Im Problem 2) kam es zur minimalen Verschmutzung 0, doch das bedeutet, dass auch die Einnahmen gleich 0 sind. Wenn wir die Einnahmen maximieren, vergrößern wir auch die Verschmutzung. Wenn wir die Verschmutzung minimieren, verringern wir die Einnahmen. Um zu einem Kompromiss zu gelangen, definieren wir folgende Ziele:

1. Ziel: Es müssen mindestens 75 % der maximalen Einnahmen (150 m) übrig bleiben, doch bevorzugt werden maximale Einnahmen (200 m).
2. Man darf 30 % der Gesamtverschmutzung nicht überschreiten, doch bevorzugt wird die Vermeidung jeglicher Verschmutzung.

Wir definieren zuerst die Zugehörigkeitsfunktion der Zielfunktion z_0 nach (3):

$$f_0(z_0) = \begin{cases} 0 & 0 \leq z_0 \leq 150 \\ z_0 - 150 & 150 \leq z_0 \leq 200 \\ 1 & z_0 \geq 200 \end{cases}$$

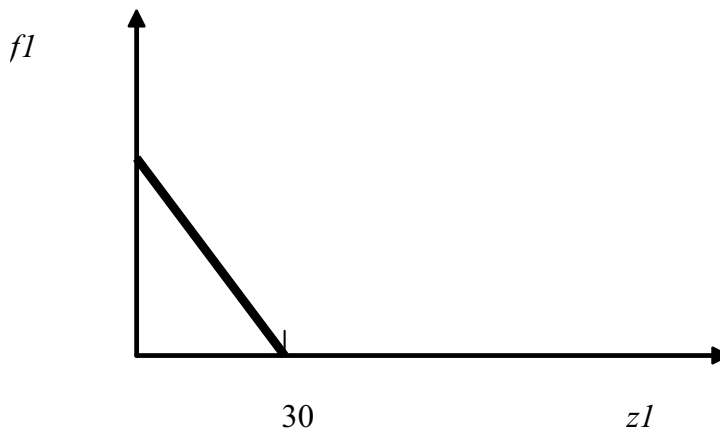
Die grafische Darstellung sieht folgendermaßen aus:



Wir definieren für die andere Zielfunktion z_1 die Zugehörigkeitsfunktion gemäß (3)

$$f_1(z_1) = \begin{cases} 0 & z_1 \geq 30 \\ \frac{30 - z_1}{30} & 0 \leq z_1 \leq 30 \\ 1 & z_1 = 0 \end{cases}$$

und ihre grafische Darstellung:



Diese zwei Ziele können einfach zu einer linearen fuzzy Funktion modelliert werden.

Indem wir die Konzeption der fuzzy Entscheidungsfindung anwenden, unser Ziel wird (4) sein, und mit Hilfe von (5) bzw. (6) erhalten wir folgendes Modell linearen Programmierens:

max σ

$$50 \sigma - 5x_1 - 10x_2 - 12x_3 \leq -150$$

$$30 \sigma + x_1 + 2x_2 + 2x_3 \leq 30$$

$$2x_1 + 8x_2 + 4x_3 \leq 100$$

$$3x_1 + x_2 + 4x_3 \leq 50$$

$$4x_1 + 2x_3 \leq 50$$

ZIELFUNKTIONSWERT

1) 0.1228070

VARIABLE	WERT	REDUZIERTE KOSTEN
σ	0.122807	0.000000
X 1	0.000000	0.008722
X 2	0.877193	0.000000
X 3	12.280702	0.000000

Das bedeutet, dass die Fabrik 0.877 Tonnen des Produkts 2 und 12.2807 Tonnen des Produkts 3 herstellt. Dadurch erhält die Firma Einnahme in einer Höhe von 156.1404 m und erzeugt 24.80 Tonnen schädlicher Abfallstoffe, was sowohl das erste als auch das zweite Ziel zufrieden stellt. Das Maß σ 0.122807 zeigt, dass je näher man den spezifischen Referenzen der Ziele 1 und 2 gekommen ist, bzw. je größer dieses Maß ist, desto näher ist die Lösung den spezifischen Referenzen.

4. MODIFIZIERTE NICHTLINEARE ZIELFUNKTIONEN DES TYPUS DER S-KURVE

Beim Problem des fuzzy linearen Programmierens verwendet man verschiedene Typen von Zugehörigkeitsfunktionen, wie beispielsweise die lineare Zugehörigkeitsfunktion⁷, den tangentialen Typen der Zugehörigkeitsfunktion⁸, die intervallartige lineare Zugehörigkeitsfunktion, die logistische Zugehörigkeitsfunktion, die konkave und teilweise lineare Zugehörigkeitsfunktion, die exponentielle Zugehörigkeitsfunktion⁹, die hyperbelartige Zugehörigkeitsfunktion.

⁷ Zimmermann, H.J.: Operations Research Methoden und Modelle, Vieweg, Wiesbaden, 1992.

⁸ Leberling, H.: On finding compromise solution in multicriteria problems using the fuzzymin-operator, Fuzzy Sets and Systems, 1981, No. 6, S. 105-118.

⁹ Carlson, C., Korhonen, P.: A parametric approach to fuzzy linear programming, Fuzzy Sets and Systems, No. 20, 1986., S. 17-30.

Wir werden hier eine neue Methodologie der modifizierten Zugehörigkeitsfunktion des Typs S-Kurve darstellen.¹⁰

Die modifizierte S-Kurve der Zugehörigkeitsfunktion ist eine Sonderart der logistischen Funktion mit den Werten B, C und α . Diese Werte gilt es zu finden. Die logistische Funktion, wie sie in der Gleichung (5) und auf Bild 3 dargestellt ist, nennen wir eine S-Kurve der Zugehörigkeitsfunktion¹¹.

$$m(x) = \begin{cases} 1 & x \leq x^a \\ 0,999 & x = x^a \\ \frac{B}{1 + Ce^{\alpha x}} & x^a \leq x \leq x^b \\ 0,001 & x = x^b \\ 0 & x > x^b \end{cases} \quad (7)$$

wo μ der Grad der Zugehörigkeitsfunktion ist. α bestimmt die Krümmung der Zugehörigkeitsfunktion $\mu(x)$, wenn $\alpha > 0$ ist. Je größer der Parameter α ist, desto kleiner wird die Unschärfe. Es ist notwendig, dass die Fachleute den Parameter α , der die Zugehörigkeitsfunktion bestimmt, heuristisch und experimentell bestimmen.

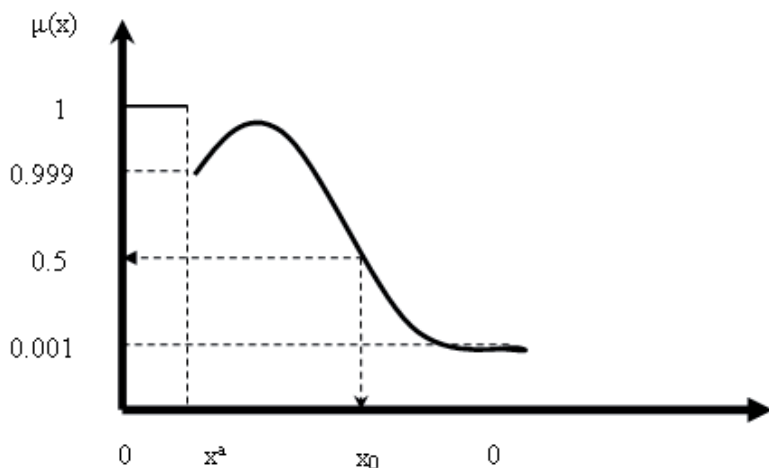


Bild 3 – Modifizierte S-Zugehörigkeitsfunktion

¹⁰ Vasant, P.: Application of multiobjective fuzzy linear programming in supply production planning problem, <http://www.generation5.org/content/2004/data/PandianVasant.pdf>.

¹¹ ibidem

Die modifizierte Zugehörigkeitsfunktion wird charakterisiert durch $0.001 \leq \mu(x) \leq 0.999$. Diese Spannweite wurde ausgewählt, weil die ausgesuchten Vorräte an Produktion und Verschmutzung nicht 100 % aller Anforderungen erfüllen. Die Berechnung der Parameter $C = 0.001001001$, $B = 1$ und $\alpha = 13.81350956$ aus (7) ist in der Applikation dargestellt.

Jetzt müssen die fuzzy Parameter der Ressourcen berechnet werden. Dies zeigt Gleichung (7) im Intervall $b_i^a < b_i < b_i^b$.

$$\mu_{b_i} = \frac{B}{1 + Ce^{\alpha \left(\frac{b_i - b_i^a}{b_i^b - b_i^a} \right)}}$$

Aus dem oben dargestellten Ausdruck kann man b_i berechnen, da b_i die fuzzy Ressourcenvariable ist.

Die Zugehörigkeitsfunktion m_{b_i} für das fuzzy Intervall b_i^0 bis b_i^1 für \tilde{b}_i ist auf dem Bild 3 dargestellt.

4. FUZZY MEHRFACHKRITERIEN-PROGRAMMIEREN

Das fuzzy lineare Programmieren für das vorhergehende Problem lautet¹²:

$$\text{Max} \sum_{j=1}^3 c_j x_j$$

mit der Einschränkung

$$\sum_{i=1}^4 a_{ij} x_j \leq b_i^a + \left[\frac{b_i^b - b_i^a}{a} \right] h \frac{1}{C} \left[\frac{B}{m_{b_i}} - 1 \right]$$

12 Vasant,P.: Application of multiobjective fuzzy linear programming in supply production planning problem, <http://www.generation5.org/content/2004/data/PandianVasant.pdf>

wobei gilt $x_j \geq 0, j = 1, 2, 3, \quad 0 < \mu_b < 1, 0 < \alpha < \infty,$
 $C = 0.001001001, B = 1$ und $a = 13.81350956$.

In der Formel (8) - nach dem Austausch des fuzzy Parameters der Ressourcen b und c_j , a_{ij} Parameter, die nicht fuzzy sind, erzielt man das beste Zielfunktionsniveau auf dem fixierten Niveau μ , wenn:

$$m = m_{u_j} = m_{b_i} \text{ für } i = 1, 2, 3, 4; j = 1, 2, 3. \quad (9)$$

Durch die Lösung (8) mithilfe des linearen Programmierens erhalten wir eine Ergebnisserie, anhand welcher man die minimale Spannbreite für die Gesamteinnahmen und die minimale Spannbreite für schädliche Verschmutzung berechnet. Die gesamte fuzzy Verbindung für die Gesamteinnahmen wird definiert als $z^R = z^R_{\max} - z^R_{\min}$, und für die schädliche Verschmutzung als $z^P = z^P_{\max} - z^P_{\min}$.

1. Iteration

$$\max 5x_1 + 10x_2 + 12x_3$$

$$2x_1 + 8x_2 + 4x_3 < 100$$

$$3x_1 + x_2 + 4x_3 < 50$$

$$4x_1 + 2x_3 < 50$$

$$x_1 + 2x_2 + 2x_3 < 30$$

OBJECTIVE FUNCTION VALUE

1) 173.3333

VARIABLE	VALUE	REDUCED COST
X1	0.000000	1.666667
X2	3.333333	0.000000
X3	11.666667	0.000000

$$\max 5x_1 + 10x_2 + 12x_3$$

$$2x_1 + 8x_2 + 4x_3 < 100$$

$$3x_1 + x_2 + 4x_3 < 50$$

$$4x_1 + 2x_3 < 50$$

$$x_1 + 2x_2 + 2x_3 < 5.55$$

OBJECTIVE FUNCTION VALUE

1) 33.30000

VARIABLE	VALUE	REDUCED COST
X1	0.000000	1.000000
X2	0.000000	2.000000
X3	2.775000	0.000000

Minimale Einnahmen = 33.300. Maximale Einnahmen = 173.333. $\Delta z^R = 140.0$

2. Iteration

max $x_1 + 2x_2 + 2x_3$

$2x_1 + 8x_2 + 4x_3 < 100$

$3x_1 + x_2 + 4x_3 < 50$

$4x_1 + 2x_3 < 50$

$5x_1 + 10x_2 + 12x_3 < 173.333$

OBJECTIVE FUNCTION VALUE

1) 33.17457

VARIABLE	VALUE	REDUCED COST
X1	8.889003	0.000000
X2	8.412715	0.000000
X3	3.730069	0.000000

max $x_1 + 2x_2 + 2x_3$

$2x_1 + 8x_2 + 4x_3 < 100$

$3x_1 + x_2 + 4x_3 < 50$

$4x_1 + 2x_2 < 50$

$5x_1 + 10x_2 + 12x_3 < 76$

OBJECTIVE FUNCTION VALUE

1) 15.20000

VARIABLE	VALUE	REDUCED COST
X1	11.600000	0.000000

X2	1.800000	0.000000
X3	0.000000	0.400000

Minimale Verschmutzung = 15.2. Maximale Verschmutzung = 33.175. $\Delta z^P = 17.95$

3. Iteration

$$\max 5x_1 + 10x_2 + 12x_3$$

$$2x_1 + 8x_2 + 4x_3 < 100$$

$$3x_1 + x_2 + 4x_3 < 50$$

$$4x_1 + 2x_3 < 50$$

$$x_1 + 2x_2 + 2x_3 < 33.2$$

OBJECTIVE FUNCTION VALUE

1) 188.2667

VARIABLE	VALUE	REDUCED COST
X1	0.000000	1.666667
X2	5.466667	0.000000
X3	11.133333	0.000000

$$\max 5x_1 + 10x_2 + 12x_3$$

$$2x_1 + 8x_2 + 4x_3 < 100$$

$$3x_1 + x_2 + 4x_3 < 50$$

$$4x_1 + 2x_3 < 50$$

$$x_1 + 2x_2 + 2x_3 < 17.4$$

OBJECTIVE FUNCTION VALUE

1) 104.4000

VARIABLE	VALUE	REDUCED COST
X1	0.000000	1.000000
X2	0.000000	2.000000

X3	8.700000	0.000000
----	----------	----------

Minimale Einnahmen = 104.4. Maximale Einnahmen = 188.2667. $\Delta z^P = 10.08$

4. Iteration

max $x_1 + 2x_2 + 2x_3$

$2x_1 + 8x_2 + 4x_3 < 100$

$3x_1 + x_2 + 4x_3 < 50$

$4x_1 + 2x_3 < 50$

$5x_1 + 10x_2 + 12x_3 < 188.1$

OBJECTIVE FUNCTION VALUE

1) 34.58095

VARIABLE	VALUE	REDUCED COST
X1	3.966667	0.000000
X2	7.709524	0.000000
X3	7.597619	0.000000

max $x_1 + 2x_2 + 2x_3$

$2x_1 + 8x_2 + 4x_3 < 100$

$3x_1 + x_2 + 4x_3 < 50$

$4x_1 + 2x_3 < 50$

$5x_1 + 10x_2 + 12x_3 < 122.5$

OBJECTIVE FUNCTION VALUE

1) 24.50000

VARIABLE	VALUE	REDUCED COST
X1	12.500000	0.000000
X2	6.000000	0.000000
X3	0.000000	0.400000

Minimale Verschmutzung = 24.50. Maximale Verschmutzung = 34.58. $\Delta z^P = 10.08$

5. Iteration

$$\max 5x_1 + 10x_2 + 12x_3$$

$$2x_1 + 8x_2 + 4x_3 < 100$$

$$3x_1 + x_2 + 4x_3 < 50$$

$$4x_1 + 2x_3 < 50$$

$$x_1 + 2x_2 + 2x_3 < 34.6$$

OBJECTIVE FUNCTION VALUE

$$1) \quad 194.8000$$

VARIABLE	VALUE	REDUCED COST
X1	0.000000	1.666667
X2	6.400000	0.000000
X3	10.900000	0.000000

$$\max 5x_1 + 10x_2 + 12x_3$$

$$2x_1 + 8x_2 + 4x_3 < 100$$

$$3x_1 + x_2 + 4x_3 < 50$$

$$4x_1 + 2x_3 < 50$$

$$x_1 + 2x_2 + 2x_3 < 24.6$$

OBJECTIVE FUNCTION VALUE

$$1) \quad 147.6000$$

VARIABLE	VALUE	REDUCED COST
X1	0.000000	1.000000
X2	0.000000	2.000000
X3	12.300000	0.000000

$$\text{Minimale Einnahmen} = 147.60. \text{ Maximale Einnahmen} = 194.80 \quad \Delta z^R = 47.20$$

6. Iteration

$$\max x_1 + 2x_2 + 2x_3$$

$$2x_1 + 8x_2 + 4x_3 < 100$$

$$\begin{aligned}
 3x_1 + x_2 + 4x_3 &< 50 \\
 4x_1 + 2x_3 &< 50 \\
 5x_1 + 10x_2 + 12x_3 &< 194.7
 \end{aligned}$$

OBJECTIVE FUNCTION VALUE

1) 35.20952

VARIABLE	VALUE	REDUCED COST
X1	1.766667	0.000000
X2	7.395238	0.000000
X3	9.326191	0.000000

$$\max x_1 + 2x_2 + 2x_3$$

$$\begin{aligned}
 2x_1 + 8x_2 + 4x_3 &< 100 \\
 3x_1 + x_2 + 4x_3 &< 50 \\
 4x_1 + 2x_3 &< 50 \\
 5x_1 + 10x_2 + 12x_3 &< 150
 \end{aligned}$$

OBJECTIVE FUNCTION VALUE

1) 30.00000

VARIABLE	VALUE	REDUCED COST
X1	10.000000	0.000000
X2	10.000000	0.000000
X3	0.000000	0.400000

Minimale Verschmutzung = 30.00. Maximale Verschmutzung = 35.21. $\Delta z^P = 5.21$

Wir halten bei der 6. Iteration, weil die minimalen Einnahmen schon bei 30 Tonnen sind, obwohl die fuzzy Spannbreite $\Delta z^P = 5.21$ minimal ist, was heißt, dass das Ziel 2 am Rande des Verstoßes ist. Deshalb gibt die Iteration 5 ein ausreichend gutes Ergebnis für die maximalen Gesamteinnahmen und die minimale Gesamtverschmutzung. Das Ergebnis der Iteration 5 zeigt, dass die maximalen Gesamteinnahmen 194.80 sind und die

gesamte minimale Verschmutzung 24.50 ist, bei einem Zufriedenheitsgrad von 99,9 % mit $\alpha = 13.81$ Unschärfe. Die erweiterte Analyse dieses Problems besteht in der Variierung des Zufriedenheitsgrads hinsichtlich der optimalen Verschmutzung und hinsichtlich der optimalen Einnahmen. So liegt die gesamte schädliche Verschmutzung bei 50 % Zufriedenheit bei 29.945 und die Gesamteinnahmen bei 171.15 Millionen GE, was das Ziel 1 zufrieden stellt.

5. ABSCHLUSS

Das fuzzy lineare Programmieren ist ein einfaches und vorteilhaftes Mittel zur Lösung von Mehrfachkriterienproblemen.

Fuzzy Mengen können zum Kombinieren mehrerer Ziele verwendet werden, ohne dass man Gewichte kalibrieren oder geordnete Wichtigkeitsränge für die einzelnen Zielsetzungen auswählen muss.

In dieser Arbeit wurde die neue Form der S-Zugehörigkeitsfunktion analysiert, die beim reellen Problem der Produktionsplanung so angewendet wird, dass man eine Funktion (Einnahmen) maximiert und die andere (schädliche Umweltverschmutzung) minimiert. Dieses Modell kann auf jede beliebige Anzahl von Zielen erweitert werden, indem man lediglich eine zusätzliche Restriktion in der Menge sämtlicher Restriktionen für jede zusätzliche Zielfunktion berücksichtigt.

RISK MEASURE MODELLING

Dr. Dominika Crnjac
Faculty of Electrical Engineering, Osijek

ABSTRACT

As a phenomenon, risk represents a latent quantity of money or equivalent values needed as a guarantee. We would like to model in some essential way the approach to potential loss caused by various agents. If the interest focuses on security, it is necessary to determine a limit.

The aim of this paper is to refer to relevant literature and show how measure theory can be built as a mathematical discipline into economic theory providing thereby risk managers with a tool by means of which they will be able to link mathematical and economic thought.

Key words: measure, risk measures, moments, random variable, probability, approximation, variance, decision making, risk function

INTRODUCTION

From a statistical point of view, a decision-making problem can be considered as a game played by two players. One player is reality and the other is a statistician, whereby the reality condition denoted by \mathbf{q} is unknown to a statistician.

Let us denote the set of all reality conditions (parameter space) by Ω .

A statistician (operator) takes an action (decision) a , if he/she finds out that the reality condition is \mathbf{q} .

Let A be a set of all actions or decisions.

The result of observation is a random variable¹ X for which law of probability $f(x, \mathbf{q})$ depends on an unknown parameter \mathbf{q} .

If the random variable X takes the value x , the operator makes a decision $a = d(x)$, whereby $d(X)$ is the decision function.

¹ Sarapa, N., Teorija vjerojatnosti, Školska knjiga, Zagreb, 1988

The decision-making procedure itself consists of the following:

- a) We define the set of all possible values q might take in the problem under consideration.
- b) We define the set of all possible actions or decisions which might be made.
- c) We define the decision function $a = d(X_1, X_2, \dots, X_n)$ of a random sample $\{X_1, X_2, \dots, X_n\}$

In this game the operator (statistician) will have either profit or loss, depending on the decision that will depend on a and q .

For the purpose of quantitative measuring let us introduce a loss function $L(a, q) = L(d(X_1, X_2, \dots, X_n), q)$ as a numeric function which associates number $L(a, q) = L(d(x_1, x_2, \dots, x_n), q)$ representing loss to every decision $a = d(x_1, x_2, \dots, x_n)$ from A and every parameter value q from Ω .

A correct decision is a decision for which loss is equal to zero.

Clearly, loss function $L(a, q)$ is a random variable for which the expected value $E(L(a, q))$ represents a risk obtained by a decision a when the reality condition is q .

On the basis of the aforementioned, let us introduce a risk function $R(d, q)$ as the expected value of the loss function $R(d, q) = E[L(d(x_1, x_2, \dots, x_n), q)]$.

Two cases might occur:

- 1) If X is a continuous random variable, then

$$R(d, q) = \int_{-\infty}^{\infty} \dots \int_{-\infty}^{\infty} L(d(x_1, x_2, \dots, x_n), q) f(x_1, q) \dots f(x_n, q) dx_1 \dots dx_n$$

- 2) If X is a discrete random variable, then

$$R(d, q) = \sum_{x_1} \sum_{x_2} \dots \sum_{x_n} L(d(x_1, x_2, \dots, x_n), q) f(x_1, q) \dots f(x_n, q).$$

Furthermore, two decision functions d_1 and d_2 may be compared by means of corresponding risk functions $R(d_1, q)$ and $R(d_2, q)$. The decision function with the risk function taking a less value is a better one.

In order to be able to select a decision function, it is natural to use maximum values of the risk function.

BAYESIAN APPROACH

Bayesian approach is simple and therefore interesting from the point of view of exploitability in the decision-making theory.

The reality condition is considered to be a random variable q with the law of probability $p(x, q)$ which is a result of operator's (statistician's) personal conviction referring to the condition of reality.

Since q is a random variable, risk function $R(d, q)$ will also be a random variable, whereby the associated law of probability reads $f(x, q) = p(q) f(x|q)$.

In this case the expected risk function value with respect to the law of probability of the a priori parameter q defines a new function (Bayes risk)

$$r(d, p) = E[R(d, q)].$$

According to (1) and (2) we have

$$I) \quad r(d, p) = \int_{-\infty}^{\infty} R(d, q) p(q) d(q) \quad \text{and}$$

$$II) \quad r(d, p) = \sum_{i=1}^n R(d, q_i) p(q_i), \text{ respectively, depending on the random variable}$$

being continuous or discrete.

In this paper we will implement this approach into risk theory with special attention being paid to risk measure, by which security strategies will be optimised.

Naturally, security function depends on many variables and their bounds and the problem of risk is located on the finite time interval $[0, t]$.

An interesting definition of risk was given in 1989 by Castagnoli, not assuming market integrity, but defining risk as a future unacceptable value in the interval $[0, t]$.

Let us assume that D is a set of acceptable situations, X a random variable of the observed situations, and i the feedback instrument.

Risk will be measured as minimum additional capital C , which should be invested into the project in order to have the value of the new situation C and $+X$ acceptable.

Risk measure can be taken as mapping

$m: D \rightarrow R, \quad m(X) = \inf \{C: Ci + X \in D\}$, whereby we accept all laws from the mathematical measure theory², such as nonnegativity, subadditivity, translation, etc.

Since we deal with approximation, variance can be used, a mathematical notion

² P.R. Halmos, Measure Theory, Van Nostrand, Princeton, New Jersey, 1963

frequently used in statistics:

$m(X) = -E(X) + k s_p(X)$ or $m(X) = -E(X) + s_p(E(X) - X)$, where E is mathematical expectancy.

Clearly, measures defined in this way are not subadditive³.

Probability distribution cannot be found easily, so that we encounter a definition problem by means of family \mathbf{P} of possible situations. Let us take risk measure as expected loss from the most unfavourable situation

$$m(X) = \sup \left\{ E_p \left(\frac{-X}{i} \right) : P \in \mathbf{p} \right\}, \text{ least upper bound}^4.$$

Let us mention some examples of measures of the previously mentioned type:

- average surplus function (P. Embrechts-C. Kluppenberg-T. Mikosch, 1997)

$$V(f) = E(|X - f| : X > f)$$

- retarded measure (Wirsch-Hardy, 1999), which introduces a concave function⁵ $d : [0, 1] \rightarrow [0, 1]$ with properties $d(0) = 0$, $d(1) = 1$

$$E_D[X] = \int_0^\infty d[P(X > x)] dx$$

A general risk theory is studied well in (C. Fishburn, 1977) using much of the stochastic theory and utility theory.

With respect to the situation f risk is defined as the measure

$$m(F) = \int_{-\infty}^f (f - x) dF(x), \text{ where } j(y) \geq 0, y \geq 0, j(0) = 0, \text{ the}$$

domain is bounded with f , and F is a distribution function⁶.

Average risk usefulness model exists if and only if there exists a real function H such that distribution F is more favourable than G , i.e. if and only if

$$H(E(F), m(F)) > H(E(G), m(G)).$$

³ H.L. Royden, Real Analysis, Macmillan, New York, 1968

⁴ See Appendix A and Appendix B.

⁵ M. Kuczma, An Introduction to the Theory of Functional Equations and Inequalities, University Press, Warszawa, 1985

⁶ N. Sarapa, Teorija vjerojatnosti, Školska knjiga, Zagreb, 1988

Dynamic approach to risk measures

We have seen how risk is measured in one period. However, very often insurance contracts, investments, etc. require a longer period of time, so that time must be clearly taken into account when defining risk and modelling risk measure.

Let $[0, t]$ be a finite time interval and C capital with due time t .

In case of a complete market, whereby there is no arbitrage, and there is an interested party who cannot invest the whole amount immediately, i.e. in time $t=0$, so that

$$C(0) := E \left[\frac{C}{S_0(t)} \right], \text{ which guarantees certain protection.}$$

$S_0(T)$ is the price of a non-risky investment at the market, E expectancy of the bounded risk, and C is a risk that has to be measured.

A very interesting proposal was given in 1999 by J. Cvitanić and I. Karatzes.

If the model depends on probability distribution, strategies g should be selected aiming at the decrease of expected probabilities of net losses;

$$m_c(X) = \inf_{g(\cdot) \in G(x)} E \left[\frac{C - X^{x,g}(t)}{S_0(t)} \right], \text{ whereby } x \text{ is the initial}$$

capital, and $G(x)$ a set of acceptable situations (strategies).

This measure is agreeing provided that investment strategy X and liability C are proportional.

This stochastic problem is solved under certain circumstances.

Uncertainty is determined through family $(P_a)_{a \in A}$ strategies.

For the purpose of controlling risk, we determine the interval of possible measures with bounds:

$$m(X) = \sup_{a \in A} \inf_{g(\cdot) \in G(x)} E \left[\left(\frac{C - X^{x,g}(t)}{S_0(t)} \right) \right], \text{ whthe most unfavourable strategy (lower}$$

$$\text{bound) and } M(X) = \inf_{g(\cdot) \in G(x)} \sup_{a \in A} E \left[\left(\frac{C - X^{x,g}(t)}{S_0(t)} \right) \right], \text{ upper bound of the worst strategy.}$$

Being familiar with laws of mathematical analysis enables us to divide interval $[0, t]$ into subintervals $[n, n+1]$, where n comes from the set of natural numbers and take into account that $\forall X_{n+1}$ is a change of portfolio values in the interval $[n, n+1]$.

Thus, time interval $[0, t]$ does not make a unit any more, but it is divided into subintervals, so that every subinterval is considered separately as a partition Π

$$m_{\Pi_n}(VX_{n+1}|F_n) = \sup \left\{ E_p \left[-\frac{VX_{n+1}}{i_n} | Vx_n \right] : P \in \Pi \right\},$$

whereby i_n is a feedback instrument.

If $m_{\Pi_n} > 0$, $\max \{m_{\Pi_n} - C_n, 0\}$ ensures alleviation of losses to the investor.

If $m_{\Pi_n} < 0$, $\min \{-m_{\Pi_n}, C_n\}$ gives a possibility of withdrawal from the account, putting up with the expected loss.

It can be easily seen that by means of real series (a_n, b_n) the risk measure interval is given,

$$a_n = \inf_{F^k \in \Pi^k} \left\{ E_{F^k} \left[-\frac{VX_{n+1}}{i_n} | Vx_n \right] : k \in K \right\}$$

$$b_n = \sup_{F^k \in \Pi^k} \left\{ E_{F^k} \left[-\frac{VX_{n+1}}{i_n} | Vx_n \right] : k \in K \right\}$$

$$[\min \{a_n - C_n, 0\}, \max \{b_n - C_n, 0\}]$$

for which there holds everything given in the following appendices.

Appendix A

Let $(a_n)_{n \in N}$ be a real series and S a set of all its accumulation points (S may also be an empty set). Element L of the set R_∞ is called the upper limit (limes superior, upper accumulation point) of the series $(a_n)_{n \in N}$, and it is determined in the following way

$$L = \begin{cases} +\infty, & \text{if the series } (a_n)_{n \in N} \text{ is unbounded above;} \\ -\infty, & \text{if the series } (a_n)_{n \in N} \text{ is bounded above and the set } S \text{ is empty (i.e. if } \lim_{n \rightarrow +\infty} a_n = -\infty); \\ \sup S, & \text{if the series } (a_n)_{n \in N} \text{ is bounded above and the set } S \text{ is not empty.} \end{cases}$$

The lower limit (limes inferior, lower accumulation point) of the series $(a_n)_{n \in N}$ is defined analogously.

The upper limit of the series $(a_n)_{n \in \mathbb{N}}$ is denoted by $\limsup_{n \rightarrow +\infty} a_n$, and the lower limit of the same series by $\liminf_{n \rightarrow +\infty} a_n$.

The upper and the lower limit are unambiguously determined (as elements of the set R_∞) for every real series and each of them is a series accumulation point in case the series is finite.

Hence, if $\limsup_{n \rightarrow +\infty} a_n \in R$, we have $\limsup_{n \rightarrow +\infty} a_n = \max S$, and if $\liminf_{n \rightarrow +\infty} a_n \in R$, then $\liminf_{n \rightarrow +\infty} a_n = \min S$.

In case a real series $(a_n)_{n \in \mathbb{N}}$ is unbounded above i.e. below, the symbol $+\infty$, i.e. $-\infty$ is often referred to as its accumulation point. If this is taken into consideration, then the sequence of the set R naturally expanded to the set R_∞ , the upper and the lower limit can be defined with no bounds in the following way:

$$\limsup_{n \rightarrow +\infty} a_n \stackrel{\text{def}}{=} \sup S, \quad \liminf_{n \rightarrow +\infty} a_n \stackrel{\text{def}}{=} \inf S,$$

but also in this way:

$$\limsup_{n \rightarrow +\infty} a_n \stackrel{\text{def}}{=} \max S, \quad \liminf_{n \rightarrow +\infty} a_n \stackrel{\text{def}}{=} \min S.$$

Appendix B

1. Let a_n and b_n ($n \in \mathbb{N}$) be real series. If for n great enough $a_n \leq b_n$, then

$$\liminf_{n \rightarrow +\infty} a_n \leq \liminf_{n \rightarrow +\infty} b_n \quad \text{and} \quad \limsup_{n \rightarrow +\infty} a_n \leq \limsup_{n \rightarrow +\infty} b_n$$

2. Let $(a_n)_{n \in \mathbb{N}}$ and $(b_n)_{n \in \mathbb{N}}$ be two real series. Excluding the cases with meaningless notions, the following inequalities hold:

$$\begin{aligned} \liminf_{n \rightarrow +\infty} a_n + \limsup_{n \rightarrow +\infty} b_n &\leq \limsup_{n \rightarrow +\infty} (a_n + b_n) \leq \limsup_{n \rightarrow +\infty} a_n + \limsup_{n \rightarrow +\infty} b_n, \\ \liminf_{n \rightarrow +\infty} a_n + \liminf_{n \rightarrow +\infty} b_n &\leq \liminf_{n \rightarrow +\infty} (a_n + b_n) \leq \liminf_{n \rightarrow +\infty} a_n + \limsup_{n \rightarrow +\infty} b_n. \end{aligned}$$

3. If $a_n \geq 0$, $b_n \geq 0$ for n great enough, then, with the same restriction as before, the following inequalities hold:

$$\liminf_{n \rightarrow +\infty} a_n \cdot \limsup_{n \rightarrow +\infty} b_n \leq \limsup_{n \rightarrow +\infty} (a_n \cdot b_n) \leq \limsup_{n \rightarrow +\infty} a_n \cdot \limsup_{n \rightarrow +\infty} b_n,$$

$$\liminf_{n \rightarrow +\infty} a_n \cdot \liminf_{n \rightarrow +\infty} b_n \leq \liminf_{n \rightarrow +\infty} (a_n \cdot b_n) \leq \liminf_{n \rightarrow +\infty} a_n \cdot \limsup_{n \rightarrow +\infty} b_n.$$

4. For every real series $(a_n)_{n \in \mathbb{N}}$

$$\liminf_{n \rightarrow +\infty} (-a_n) = -\limsup_{n \rightarrow +\infty} a_n, \quad \limsup_{n \rightarrow +\infty} (-a_n) = -\liminf_{n \rightarrow +\infty} a_n,$$

If $a_n > 0$ ($n = 1, 2, \dots$), then

$$\liminf_{n \rightarrow +\infty} \frac{1}{a_n} = \frac{1}{\limsup_{n \rightarrow +\infty} a_n}, \quad \limsup_{n \rightarrow +\infty} \frac{1}{a_n} = \frac{1}{\liminf_{n \rightarrow +\infty} a_n},$$

where, in addition to the previously adopted convention $\frac{1}{+\infty} = 0$, it is taken that $\frac{1}{0} = +\infty$.

5. Let $(a_n)_{n \in \mathbb{N}}$ and $(b_n)_{n \in \mathbb{N}}$ be two real series. If

$b_n \rightarrow +\infty$ ($n \rightarrow +\infty$) and $b_n \uparrow$ for n great enough, then

$$\liminf_{n \rightarrow +\infty} \frac{a_n - a_{n-1}}{b_n - b_{n-1}} \leq \liminf_{n \rightarrow +\infty} \frac{a_n}{b_n} \leq \limsup_{n \rightarrow +\infty} \frac{a_n}{b_n} \leq \limsup_{n \rightarrow +\infty} \frac{a_n - a_{n-1}}{b_n - b_{n-1}}.$$

INSTEAD OF A CONCLUSION

This paper partially gives a mathematical set of instruments to managers who can link a mathematical to an economic thought.

Risk measure assessment (interval) is given explicitly.

LITERATURE

1. P. Artzner, F. Delbaen, J.M. Eber, D. Heath, Coherent risk measures, *Mathematical Finance*, 1999, Vol. 9, pp. 203-228
2. E. Castagnoli, Qualche riflessione sull'utilità attesa, *Proceed. 13th Italian Conference of the Association for Mathematics Applied to Economic and Social Sciences*, 1989, pp. 993-995
3. J. Cvitanik, I. Karatzas, On dynamic measures of risk, *Finance and Stochastics*, 1999, Vol. 3, pp. 451-482
4. C. Fishburn, Mean-risk analysis with risk associated with below-target returns, *The American Economic Review*, 1977, Vol. 67, pp. 116-126
5. P.R. Halmos, *Measure Theory*, Van Nostrand, Princeton, New Jersey, 1963
6. S. Karlin, *Mathematical Methods and Theory in Games*, Pergamon Press, London-Paris, 1959
7. M. Kuczma, *An Introduction to the Theory of Functional Equations and Inequalities*, 1985, University Press, Warszawa
8. J. von Neumann, O. Morgenstern: *Theory of Games and Economic Behavior*, Princeton University Press, 1953
9. H.L. Royden, *Real Analysis*, Macmillan, New York, 1968
10. N. Sarapa, *Teorija vjerojatnosti, Školska knjiga*, Zagreb, 1988
11. S.D. Stoller, *Operations Research: Process and Strategy*, University of California Press, Berkley and Los Angeles, 1964
12. J.L. Wirch, M.R. Hardy, A synthesis of risk measures for capital adequacy, *Insurance: Mathematics and Economics*, 1999, Vol. 25, pp. 337-347
13. Williams J.D., *The compleat strategist, being a primer on the theory of games of strategy*, Mc Graw-Hill Book Co., New York, 1966

HANDLING RISK AND USING THE PORTFOLIO TECHNIQUE

Dipl. oec. Patrick Baumann
Hochschule Pforzheim

1. INTRODUCTION

Nowadays handling risks within the multi-project management approach is regarded as a relatively young application field; on the one hand this is expressed by the fact that within the project management-specific literature scientific work is sowed extremely thinly on the other hand approaches that can be used as a basis for the implementation are often missing. Correspondingly, it does not astonish that risk management is applied within the project work, but the potential of this concept is not exhausted by the companies.

In the near future the risk management approach will play an important role due to the organizational, technical and systemic progress. This fact is accelerated by product life cycles that are getting more and more shortlived at also shortening development times within companies that generate a considerable turnover by project work. This topic is intensified by a more and more lower budget for projects as well as by a strict product liability law being valid in all countries of the European community.

The following work shall make a contribution to the project management literature and the practical application, as well. First of all, companies shall be able to implement risk management methods into their projects systematically and identify all performance risks, project equipment risks and deadline risks. Besides, the portfolio technology shall be explained so that companies can measure and visualize project risks so that the total risk can be reduced to an acceptable level for the company.

2. The conceptional characteristics of the multiproject management and the project-oriented risk management

Chapter 2 shall explain the conceptional differences between the management of one or several single projects (traditional project management) and the multiproject management approach. In addition the conceptional characteristics of a project-oriented risk management shall be presented.

2.1 The conceptional differences between project management and multi-project management

The management of projects is also described as multi-project management in the practical application and in the literature under the prerequisite that this concept meets the extended requirements as a management concept¹. While the focus of the classic project management lies on planning and controlling *one* or several *individual* projects, the central task of the multi-project management consists in the *general* control of *all* projects of a business. This means that multiproject management is characterized by:

- Direct link to the company strategy (realization function of MPM)
- Device to choose between the most lucrative projects under a strategic and economic view (filter function of MPM)
- Optimized distribution of resources to the projects (allocative function of MPM)
- Use of synergies and efficient design of the project landscape² (control function of MPM)

Multiproject management has a direct link to the company strategy since project management and the project landscape is always regarded under a strategic view. In the context of multi-project management projects represent an instrument to support the realization of the company strategy³. The cause why multiproject management as a concept is further-reaching than the classic project management approach is that employees and financial resources must be considered restricted and scarce in every company. It is the task of the multiproject management to take a decision *which* projects are carried out from a variety of potential projects and how the allocation of the scarce resources between all projects looks like⁴. Moreover, multiproject management decreases the in-house conflict potential because it tries to allocate all resources as optimally as possible⁵. In addition, the multiproject management has to recognize dependences between projects and generates synergies by knowledge transfer and common use of resources over the projects⁶. This fact means that multiproject management has to put standards, tools and methods at the disposal of all projects so that transferring knowledge and generating synergies becomes possible.

The institutionalization of multiproject management must be regarded as convenient when interdependences between the projects exist as well as synergy potentials, a variety of complex projects have to be realized and conflicts around the restricted resources must

¹ In this essay the term of multiproject management is used in tradition of Kühn and Lomnitz. Reference: Kühn (2002), p. 46 ff. bzw. Lomnitz (2003), p. 3ff.

² The total of projects in an company can be described as „project landscape“.

³ Reference: Kühn (2002), p. 46f.

⁴ Reference: Lomnitz (2004), p. 11f. bzw. Jantzen-Homp (2000), p. 13.

⁵ Reference: Balzer (1998), p. 32f.

⁶ Reference: Jantzen-Homp (2000), p. 13f. bzw. Kühn (2002), p. 46f.

be expected.

2.2 Project-oriented risk management - conception and starting-points

Risk management in projects represents a conception that differs from the financial risk management approach. The term of risks in projects must be understood as a measure for the probability and the consequence of not accomplishing a project goal⁷. In turn project objectives must be seen in the compliance with a predefined budget, an deadline (i.e. time to Market) and producing the product features agreed on in the functional specifications⁸.

An extremely apt characterization of the project-oriented risk management is supplied by Burghardt within his work "Projektmanagement"⁹: Risk management must be considered as the the systematic approach to identify potential risks, to rate the risk and to develop measures for the risk diminution or reduction¹⁰. Burghardt emphasizes that the objective of risk management does not consist in the avoidance of all potential risks but rather in creating scopes of action so that risks can be taken consciously due to a comprehensive knowledge of the risks and their connections¹¹. For this reason Burghardt understands risk in projects as a kind of possibility management¹².

The starting-points of a project-oriented risk management consist in the central control parameters of a project that must be regarded as the performance criteria, the project equipment criteria and the time criterion¹³. The identification, rating and handling of risks can be carried out only via these parameters in projects¹⁴. Illustration 1 shows a systematization of the control criteria¹⁵:

⁷ Reference: Kerzner (2003), p. 582f.

⁸ Reference: Burghardt (2000a), p. 23ff.

⁹ Reference: Burghardt (2002b), p. 297ff.

¹⁰ Reference: Burghardt (2002b), p. 297ff.

¹¹ Reference: ebenda.

¹² Reference: Burghardt (2002b), p. 297.

¹³ Reference: Baumann (2005), p. 31ff.

¹⁴ Reference: Ebenda.

¹⁵ Reference: Baumann (2005), p. 35.

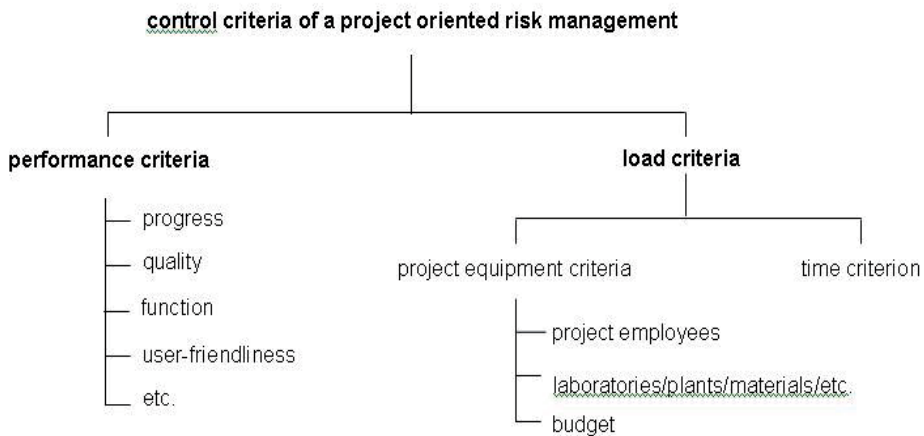


Illustration 1: *Control criteria of a project-oriented risk management (Baumann (2005), p. 35.)*

3.Risk management on the level of multiproject management and single project management

Functioning risk management methods and processes on the level of single projects are the corner stone for successfully implementing risk management on the multiproject management. Risk analysis and risk coverage must be considered as the central parts of any risk management process. Chapter 3.2. explains the risk analysis that can be splitted in identification and rating of risks. Chapter 3.3 describes the development of handling and action plans, the rating of these plans and the controlling of risk measures as part of the risk coverage. At first, a summary of the complete risk management process shall be given in chapter 3.1.

3.1 The risk management process

Illustration 2 shows the individual phases of the risk management process that can be divided in risk identification, risk rating, measure planning, measure rating and risk control. In addition, the most important results to be produced are shown for every individual phase:

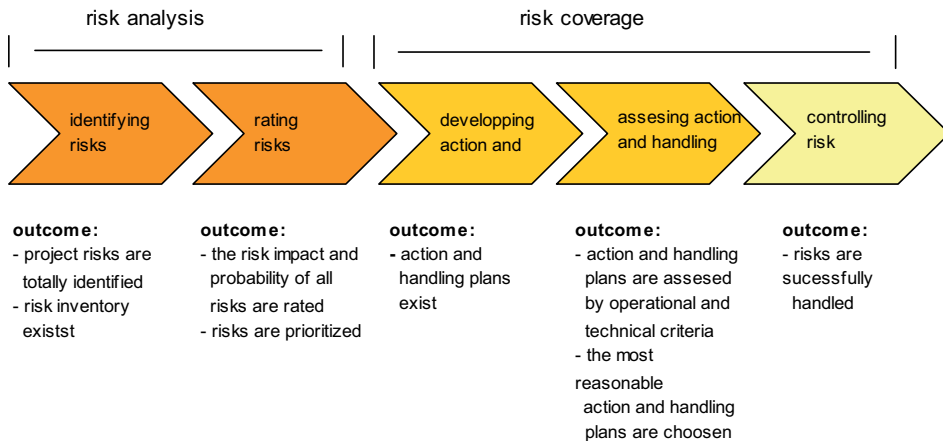


Illustration 2: *The risk management process, phases and results.*

3.2 Risk analysis - temporal starting-points

There are several times that are considered favourable for the start of a risk analysis:

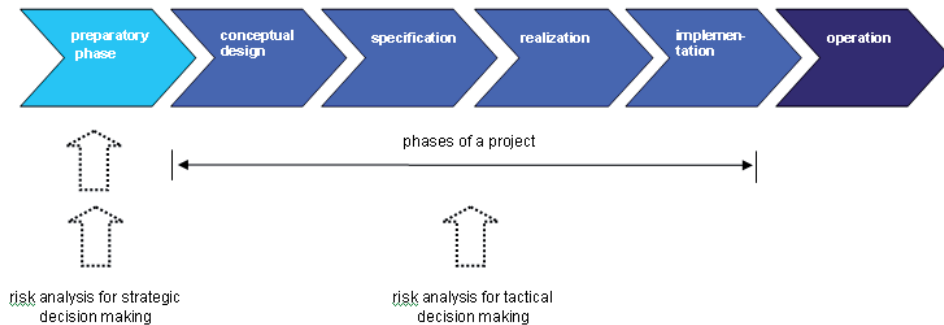


Illustration 3: *Temporal starting-points of the risk analysis in the individual project phases by analogy with Kessler/Winkelhofer and Fürnrohr. Cf. Kessler/Winkelhofer (2002), p. 122 and Fürnrohr (1990) p. 3.*

- In the project preparatory phase the risk analysis accomplishes mainly tasks for the preparations for strategic project decisions¹⁶. The risk analysis serves to support the decision making whether a project should be realized or not¹⁷. In this case the risk analysis shall make a contribution to realization of the company strategy considering the economic and technological feasibility as well as the risk¹⁸. A risk analysis in the project preparatory phase can form the corner stone for an project-accompanying risk analysis provided that the project will be realized. A risk analysis in the project preparatory phase does not exclude the following project-accompanying risk analysis.
- If the risk analysis is started accompanying to the project then it serves to support the project manager and the project team at the preparations for tactical project decisions. Its objective is to make the planning and realization of risk measures more easy¹⁹. Therefore, tactical project decisions concern the technical and administrative project clearing²⁰. In the context of the project accompanying risk analysis Fürnrohr and Diethelm distinguish the so-called project structure-oriented methods of the process plan-oriented methods²¹.

¹⁶ Reference: Fürnrohr (1990), p. 1ff.

¹⁷ Reference: Fürnrohr (1990), p. 2.

¹⁸ Reference: Wollmann (2002), p. 22ff.

¹⁹ Reference: Fürnrohr (1990), p. 2 bzw. Diethelm (2000), p. 82.

²⁰ Reference: Fürnrohr (1990), p. 2.

²¹ Reference: Fürnrohr (1990), p. 2f. bzw. Diethelm (2000), p. 82f.

3.2.1 Risk analysis: identification of all risks (step 1)

A project-oriented risk identification should be systematically and continuously carried out according to uniform guidelines and standards since risk reporting and risk control are made easier that way²². The systematic procedure must be considered as a supporting basic framework that has to be fulfilled with the experience and competence of the project members²³. The project-oriented risk identification should never fall into the responsibility of one single person - it should involve as many project members as possible to identify all relevant risks²⁴. Often this is the only possibility to be able to handle the complexity and newness of a project. This is the reason why the risk identification in projects uses a variety of instruments and methods that are based on teamwork and on the engagement of every individual group member. This short summary shows the most common instruments or methods to identify risk in the context of project work:

- risk checklist
- lessons-learned archive
- instruments of the project controlling
- process mapping
- fault tree method
- risk matrix
- risk analysis workshop
- etc.

These proceedings can be combined with each other. Besides these instruments and methods, a variety of further methods exist for the identification of risk. The listed instruments and methods have all in common that the load and performance criteria (chapter 2.2) can be used as starting-point of the risk identification. The result of the project-oriented risk identification consists in a variety of identified different individual risks. These have to be completely written down in a so-called risk catalogue²⁵. For reasons of transparency and clarity risks must be taken down with a short description of the risk, the cause of the risk and with the trigger of the risk. The risk inventory arises from the unsystematic collection of individual risks within the risk catalogue by elimination double mentionings and a systematization of the risks. When building the risk inventory it is also important to take care that dependences between risks must be identified because one risk can cause another²⁶.

²² Reference: Bitz (2000), p. 26.

²³ Reference: Franke (1990), p. 21f.

²⁴ Reference: Bitz (2000), p. 26.

²⁵ Reference: Bitz (2000), p. 27.

²⁶ Reference: Bitz (2000), p. 27.

3.2.2 *Risk analysis: rating of all risks (step 2)*

After the risk catalogue and the risk inventory were prepared, the identified risks must then be rated and judged. A risk rating is necessary to systematize all relevant risks by consequence and probability of risk occurrence²⁷. Due to the results of the risk rating it is possible to prioritize certain risks. It is also possible to distinguish between project risks that can be accepted and project risks that are inadequate²⁸. In turn the risk rating forms the basis for all steps of the risk coverage. A project-oriented risk rating should contain the occurrence probability and the potential damage/consequence. Rating risk can use one of the following three methods²⁹:

- Qualitative rating methods,
- semi-quantitative rating methods and
- quantitative rating methods

After all risks have been rated it is recommended to write down a risk table with the following content: Risk source, risk occurrence, risk probability, potential damage height/consequence, responsibility and existing strategy for risk coverage³⁰.

3.3 Risk coverage

Main task of the risk coverage consists in generating and implementing a suitable strategy for risk so relevant project risks can be controlled³¹. The development of this strategy is based on the knowledge gained within the risk analysis and should contain at least one alternative of controlling risk. The objective of these alternatives is to reduce risk to an acceptable level. It requires the planning of action and handling plans for risk diminution and minimization to be able to formulate a technically, practicable and economically favourable risk strategy. In a second step these planned measures are subject of a rating that examines primarily the profitability and economic consequences that are accompanied by the realization of the different measures³². Only on basis of the measure planning and measure rating a strategy can be adopted for controlling the risk. All process steps of the risk coverage shall be explained in the following, i.e. planning of action and handling plans, rating of these plans and controlling the risk.

²⁷ Reference: Bitz (2000), p. 28.

²⁸ Reference: Bowden/Lane/Martin (2001), p. 17f. bzw. Burghardt (2002b), p. 300f.

²⁹ For further, detailed information about rating risks see also Baumann (2005), p. 52ff.

³⁰ Reference: Burghardt (2002b), p. 301f.

³¹ Reference: Bowden/Lane/Martin (2001), p. 93ff.

³² Reference: Burghardt (2002b), p. 302f.

3.3.1 *Risk coverage: planning of handling and action plans and developping risk control strategies (step 3)*

In the context of planning action and handling plans one has to distinguish between the so-called risk diminution measures and the so-called risk reduction measures. Measures for the risk diminution try to reduce the occurrence probability of a risk³³. So risk diminution measures serve the prevention³⁴ and are also described as cause-related measures since they tackle the risk emergence at the root³⁵. A risk inventory with properly written down risks and all related informations makes the planning of handling and action plans more easy. It is also the corner stone for developping preventative measures. Corrective measures consist in the so-called measures of the risk reduction that shall reduce the damage height or the consequences in case of risk occurrence³⁶. Risk reduction measures can also be described as effect-related measures since they aim at the material dimension of a risk³⁷.

In the context of planning action and handling plans for risks it is advisable to define target-settings and objectives. These target-settings formulate the level of an occurrence probability and/or the level of consequence to what a risk shall be reduced. Risk prevention and risk reduction measures are oriented at these target-settings. Regarding the target level of risk, one has to distinguish between short-term and long-term objectives³⁸. This procedure seems to be wise since in the short run risk coverage is not possible by the best available technology but should be implemented in the long run. The planning and development of suitable measures for the risk coverage can be made easier by the following four control strategies: These strategies consist in the acceptance, avoidance, drop in and assignment of project risks³⁹. Even if these control strategies are a descriptive manner and must be considered as a guiding principle, they are nevertheless useful and valuable when developping a risk control strategy. In addition it must be mentioned that these strategies can be combined with each other to handle one or more individual risks⁴⁰.

Result of the measure planning should be a sufficiently detailed description of alternative measures or strategies that all seem to be practicable and suitable for the control of an individual specific risk. In the next step the measure rating decides which of these measures are actually implemented.

³³ Reference: Burghardt (2002b), p. 301f.

³⁴ Reference: Burghardt (2002b), p. 301f.

³⁵ Reference: Diederichs (2004), p. 188.

³⁶ Reference: Burghardt (2002b), p. 301f.

³⁷ Reference: Diederichs (2004), p. 188.

³⁸ Reference: Bowden/Lane/Martin (2001), p. 95.

³⁹ Reference: Kerzner (2003), S. 607ff. bzw. Diederichs (2004), p. 188ff.

⁴⁰ Reference: Diederichs (2004), p. 194.

3.3.2 *Risk coverage: measure rating (step 4)*

The rating of the alternative measures for risk reduction and risk diminution shall give information about how an individual risk shall be reduced. Regarding the profitability represents an important deciding factor for projects when rating the different alternatives⁴¹. That is the reason why a monetary rating of all alternatives should be carried out⁴². The quantitative rating method assigns a monetary sum to every risk in dependency of risk occurrence probability and risk consequence. Using the quantitative rating method allows the comparison of the potential cost at risk occurrence and the cost of a certain risk coverage measure. As consequence a rational, sound and economically favourable decision can be taken. Burghardt rightly refers that it is nonsense to implement a risk coverage measure that would cost just as much as the elimination of the consequence that might not occur but only under certain circumstances⁴³. Of course further criteria can/must be included in the measure rating. It seems wise to check the alternatives for the technical feasibility. Kerzner refers that an important criterion must be seen in the time for the implementation and putting into action of the measure⁴⁴. If no time is left for the implementation of the measure the putting into action is superfluous. Even further criteria can be used such as the legal dimension of putting into action and aspects of the social and ecological sustainability et cetera. Which criteria are chosen to rate alternative measures must be individually decided.

Only after quantifying the resting risk that can not be reduced any further and after estimating the costs of risk coverage, a decision can be made *which* measure will cover *which* risk⁴⁵.

3.3.3 *Risk coverage: risk control (step 5)*

Subject of the risk control must be seen in the active influencing, i.e. in a purposeful control of the relevant project risks⁴⁶. This purposeful control of the project risks is respectively made by putting into action the best suitable risk prevention and risk reduction measures that are chosen following the measure planning and measure rating. Besides systematically influencing project risks the thread of the risk control also covers the continuous checking and controlling of effectiveness and efficiency of the individual control measures⁴⁷. By ongoing control necessary adjustments can be made⁴⁸. Burghardt recommends to introduce a regular risk reporting that is accompanied by an improvement

⁴¹ Reference: Burghardt (2002b), p. 302f.

⁴² Reference: Burghardt (2002b), p. 302f.

⁴³ Reference: Burghardt (2002b), p. 302.

⁴⁴ Reference: Kerzner (2003), p. 608.

⁴⁵ Reference: Burghardt (2002b), p. 302f.

⁴⁶ Reference: Diederichs (2004), p. 188ff.

⁴⁷ Reference: Diederichs (2004), p. 188 bzw. Burghardt (2002b), S. 303.

⁴⁸ Reference: Diederichs (2004), p. 188.

regarding the quality of decisions⁴⁹. This kind of risk reporting also shortens the time of response.

4. SPECIFIC CONCEPTIONAL REQUIREMENTS OF THE MULTI-PROJECT MANAGEMENT ON THE RISK MANAGEMENT PROCESS

If risk management shall be implemented on multiproject management certain aspects and requirements of this concept must be considered. These aspects are mainly the standardization of the risk management process as well as the standardization of the reporting. The necessary concept modifications are minimal but at the same time the modifications are ongoing with an immense increase of utility for multi-project management and the company. The following chapters shall give information about this aspects.

4.1 Standardization of the risk management process in the project landscape

A standardization of the risk management process for the purposes of the multi-project management must be considered as a guideline that includes all important aspects. It is recommended to implement an uniform risk process model that fixes the process steps and the outcome of every process step⁵⁰. Moreover risk management processes get comparable over the projects, the corner stone of comprehension of the concept is set. An objective-oriented procedure can be supported by procedure guidelines, "best practice experiences" and recommendations. A standardization of the risk management process should provide a frame which makes covering risks more easy to the projects.

4.2 Standardization of the reporting

If several projects are carried out in a company at the same time, then - in general - an increased risk arises for the project portfolio and the company⁵¹. On the one hand, this can be explained by the number of projects and on the other hand by the existing dependences between the projects⁵². The task of the risk management in the context of the multi-project management has to be consisting in risk compensation besides the reduction and minimization of all risks for the project portfolio and the company⁵³. This requires that the management is well informed about the risk status of every project – an intelligent reporting-system will be necessary. The need of steering activities on the level of multi-project management can only be detected by a risk reporting system that adequately

⁴⁹ Reference: Burghardt (2002b), p. 303.

⁵⁰ Remember also that in the literature an uniform risk process model does not exist. Reference: Kaninke (2004), S. 39f. bzw. Romeike (2005), S. 24ff.

⁵¹ Reference: Wollmann/Pleuger (2002), p. 98f.

⁵² Reference: Lomnitz (2004), p. 120.

⁵³ Reference: Wollmann/Pleuger (2002), p. 99 bzw. Lomnitz (2004), p. 120.

describes the risk situation of the complete project portfolio and the risk situation of the individual project⁵⁴. In opinion of Lomnitz the increased utility of a standardization of the reporting consists in the guarantee of an unhindered flow of information between the projects, the ordering parties and the management⁵⁵. The standardization of the reporting allows to compare project risks between different projects and makes it possible to determine the total risk of the project portfolio⁵⁶.

Regarding the optimal degree of standardization of the reporting, a general statement is not easy: the requirements might differ too much in every company for⁵⁷. But the following aspects should find entrance into the reporting: The reporting of the single projects should contain specific information about the project equipment criteria, the temporal criterion, the result progress, and the performance criteria⁵⁸. In this way a risk status can be investigated for every project related to the performance criteria, the project equipment criteria and the temporal criterion. In the next step the risk rating of every project can be conducted to generate the risk status of the complete project portfolio⁵⁹.

4.3 Graphic visualization of the risks in the project portfolio

The portfolio-technique and the graphic visualization are tools that are integral parts of the multiproject management approach. The graphic visualization of project portfolio risks must be regarded as more than only a summary of the total amount of risk. It also shows if the total amount of risk is still acceptable or whether measures to reduce the risk must be initialized. Using the time-series-comparison of the graphic visualization risk changes of the complete project portfolio or individual projects can be investigated over a given time period. This allows the judgement whether measures for the reduction of risks are successful on the multi-project management level.

Since one of the central tasks of the multi-project management consists in realization of the company strategy, the risk-strategy contribution-matrix of Lomnitz is a good tool to visualize risk and strategy contribution of the project portfolio. Illustration 4 shows a matrix which represents the risk and the strategy contribution of the single projects on the project portfolio level.

⁵⁴ Reference: Wollmann/Pleuger (2002), p. 103ff.

⁵⁵ Reference: Lomnitz (2004), p. 135ff.

⁵⁶ Reference: Wollmann/Pleuger (2002), p. 100.

⁵⁷ Reference: Lomnitz (2004), p. 135ff.

⁵⁸ Reference: Baumann (2005), p. 73ff.

⁵⁹ Reference: Wollmann/Pleuger (2002), p. 103ff.

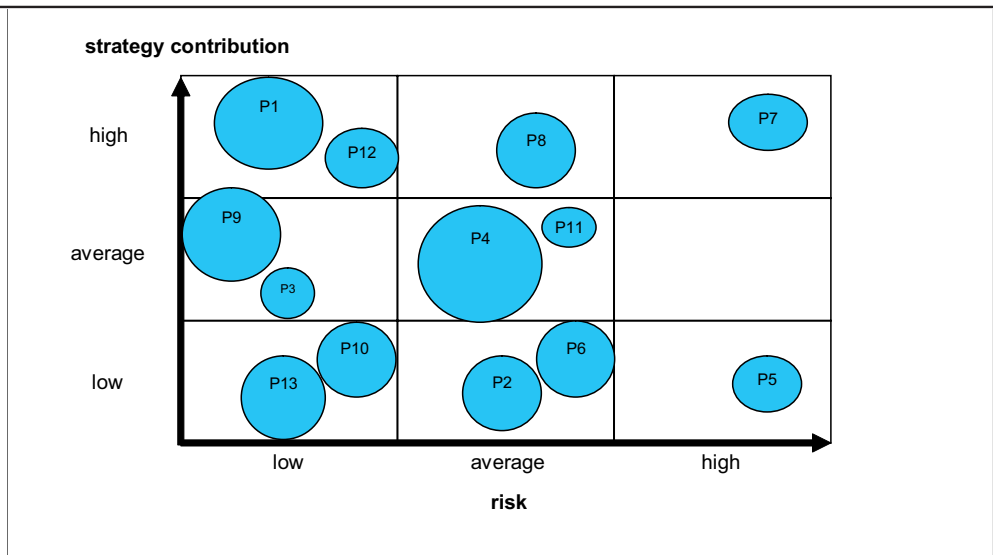
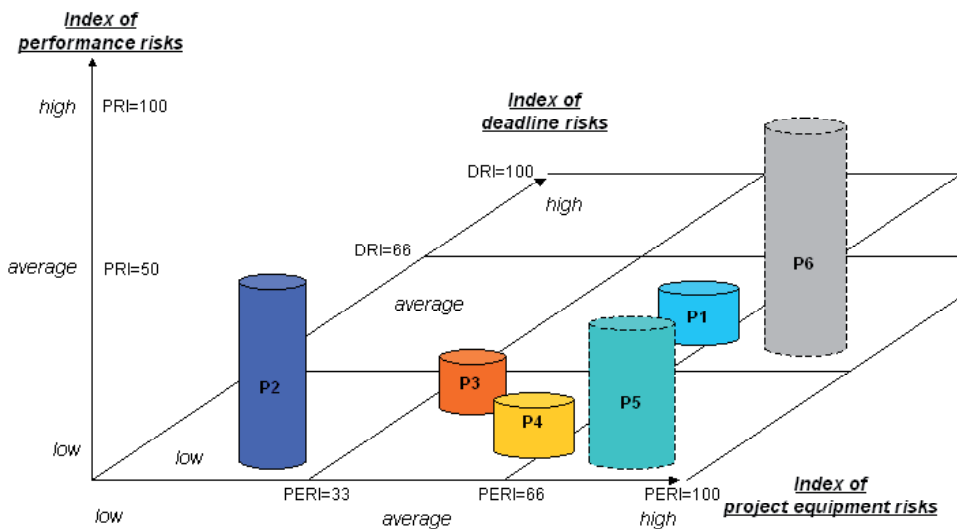


Illustration 4: Risk strategy contribution matrix by analogy with Lomnitz; cf. Lomnitz (2004), p. 124.

It must be mentioned that this kind of representing the risk of the project portfolio not only can be used “ad post” – it also gives valuable device “a priori” of the execution of projects: Starting a risk analysis in the project preparatory phase shows whether a project fits in the project portfolio and whether it makes a contribution to the company strategy. Unacceptable concentrations of risk can avoided. In connection with this, Lomnitz refers that a balanced project portfolio that brings turnover and profit growth into harmony with the company strategy and an acceptable level of risk has to be striven for⁶⁰.

⁶⁰ Reference: Lomnitz (2004), p. 125.

To recognize an overstress of the load and performance criteria explained in chapter 2.2 the author of this essay has developed in the year 2005 the 3D-Risk-Matrix⁶¹. This matrix takes down the risks of the single projects in the three-dimensional room. The first axis measures the risk regarding performance criteria of a project, the second axis measures the risk regarding project equipment criteria and the third axis measures the risk regarding the deadlines/time criterion. Illustration 5 shows such a three-dimensional visualization:



Illus. 5: 3D representation of performance, use and time risks in the project landscape. Reference: Baumann (2006), p. 75ff..

By applying this matrix in the project preparatory phase one-sided risk concentrations can be avoided. Illustration 5 shows such a one-sided concentration of project risks regarding the project equipment criteria. If the company realizes the projects P5 and P6 then there will be such an unacceptable situation. In this case the visualization has shown that the project equipment criteria – for example the budget – is overstressed and the total amount of risk is too high.

It is recommended for every index to derive a quantitative value from the risk analysis since it will be much more easier to make a comparison between the projects. To be able to

⁶¹ Reference: Baumann (2005), S. 75ff.

make an accurate comparison risks must be rated consistently in all projects with the same criteria. It is the duty of a good multiproject management to provide device and resources to the projects so that an objective value for every index can be determined. In the above mentioned example the PRI = 50 (performance risks index) of project No. 2 might be the outcome of the sum of the sub-criteria progress, quality, function, user-friendliness etc. Quantitative values can be formed for the PERI (project equipment risks index) and the DRI (deadline risks index) by using an analogous proceeding.

5. CONCLUSION

Objective of this essay was to present a concept that is able to identify and cover risk at the multiproject management level. We remember: the institutionalization of multiproject management must be regarded as convenient when interdependences between the projects exist as well as synergy potentials, a variety of complex projects have to be realized and conflicts around the restricted resources must be expected. – This situation will be found in most of the companies that generate the main part of their turnover by developing new products. It is obviously that the multiproject management approach and risk management approach complement each other well under the prerequisite that the risk management concept is adopted to the special characteristics and circumstances of project work. If a company has already implemented risk management methods and measures in its projects, it makes sense to regard the risk in the view of multiproject management. The same advice can be given if a risk management system shall be implemented in projects.

The task of multiproject management is to realize the company strategy and to minimize risk at an acceptable level. The portfolio-technique is the most suitable and easiest way to express all relevant informations. That is also the reason why multiproject management has a faible for the visualization of risks. The 3D-Risk-Matrix is such a tool. Its biggest advantage comes in the project preparatory phase since it gives advice to contain the total risk of all projects at an acceptable level.

Regarding the future of this concept, the importance of the project oriented risk management will more and more increase since the market competition, the project environment and the product liability laws become also more and more restrictive and „challenging“.

LIST OF LITERATURE:

Aggteleky, B./ Bajna, N. (1992): Projektplanung – Ein Handbuch für Führungskräfte: Grundlagen – Anwendungen – Beispiele, München/Wien 1992.

Balzer, H. (1998): Den Erfolg im Visier – Unternehmenserfolg durch Multiprojektmanagement, Stuttgart 1998.

Baumann, P. (2005): Anforderungen und konzeptionelle Überlegungen eines projektorientierten Risikomanagements, Hohenheim 2005.

Berekoven, L./Eckert, W./Ellenrieder, P. (2004): Marktforschung – Methodische Grundlagen und praktische Anwendung, 10th Edition, Wiesbaden 2004.

Bitz, H. (2000): Risikomanagement nach KonTraG – Einrichtung von Frühwarnsystemen zur Effizienzsteigerung und zur Vermeidung persönlicher Haftung, Stuttgart 2000.

Bowden, A./Lane, M./Martin, J. (2001): Tripple Bottom Line Risk Management – Enhancing Profit, Environmental Performance and Community Benefits, New York/Chichester/Weinheim 2001.

Brühwiller, B. (2003): Risk Management als Führungsaufgabe – Methoden und Prozesse der Risikobewältigung für Unternehmen, Organisationen, Produkte und Projekte, Stuttgart 2003.

Burghardt, M. (2002a): Einführung in Projektmanagement - Definition, Planung, Kontrolle, Abschluss, 4th Edition, Erlangen 2002.

Burghardt, M. (2002b): Projektmanagement - Leitfaden für die Planung, Überwachung und Steuerung von Entwicklungsprojekten, 6th Edition, Erlangen 2002.

Cleland, D. I./King, W. R. (1975): System Analysis and Project Management, 2nd Edition, New York 1975.

Chakraborty, S. (1985), Einführung Risikoanalyse und Entscheidungsprozess. In: Yadigaroglu, G./Chakraborty, S. (Hrsg.): Risikountersuchungen als Entscheidungsinstrument, Köln 1985.

Corsten, H. (2000): Projektmanagement: Einführung, München/Wien/ Oldenbourg 2000.

Deutsches Institut für Normung e.V. (1987a): DIN 69 901 – Projektwirtschaft; Projektmanagement; Begriffe, Berlin 1987.

Deutsches Institut für Normung e.V. (1987b): DIN 69 902 – Projektwirtschaft; Einsatzmittel; Begriffe, Berlin 1987.

Diederichs, M. (2004): Risikomanagement und Risikocontrolling: Risikocontrolling – ein integrierter Bestandteil einer modernen Risikomanagement-Konzeption, München 2004.

Diethelm, G. (2000): Projektmanagement – Band 1: Grundlagen, Herne/Berlin 2000.

Ebel, B. (2003): Qualitätsmanagement – Konzepte des Qualitätsmanagement, Organisation und Führung, Ressourcenmanagement und Wertschöpfung, 2nd Edition, Herne/Berlin 2003.

Fischer, F. (2004): Korrelationen von Risiken im Programm- und Projektportfoliomanagement – Ein hybrides Entscheidungsmodell zur Selektion alternativer Programme und Projektportfolien, Frankfurt am Main/Berlin/Bern 2004.

Franke, A. (1990): Risikoanalyse und Risikobewertung – eine spezifische Aufgabe erfolgreichen Projektmanagements. In: Franke, A./Fürnrohr, M. (Publishers): Risikomanagement von Projekten, Köln 1990.

Frese, E. (2000): Grundlagen der Organisation: Konzept – Prinzipien – Strukturen, 8th Edition, Wiesbaden 2000.

Füser, K./Gleißner, W. (2001): Grundbegriffe des Risikomanagement. In: Gleißner, W. (Hrsg.): Risikomanagement in Unternehmen – Praxisratgeber für die Einführung und Umsetzung, Loseblattsammlung, Augsburg 2001, Actuality: September 2003, Chapter 4.2.

Fürnrohr, M. (1990): Methoden der Risikoanalyse – Zwei einfache Techniken der NASA und US-Army. In: Franke, A./Fürnrohr, M. (Publishers): Risikomanagement von Projekten, Köln 1990.

Gleißner, W. (2001): Identifikation und Bewertung von Risiken. In: Gleißner, W. (Publisher): Risikomanagement in Unternehmen – Praxisratgeber für die Einführung und Umsetzung, Loseblattsammlung, Augsburg 2001, Actuality: September 2003, Chapter 7.3.

Gorrod, M. (2004): Risk Management Systems – Process, Technology and Trends, Houndmills, Basingstoke, Hampshire, 2004.

Gruber, W./Süß, G. (2003): Projektmanagement-Lexikon – Das Standardwerk für die Projektarbeit, München 2003.

Hansel, J./Lomnitz, G. (2003): Projektleiter-Praxis – Optimale Kommunikation und Kooperation in der Projektarbeit, 4th Edition, Berlin/Heidelberg/New York.

Jantzen-Homp, D. (2000): Projektportfolio-Management – Multiprojektarbeit im Unternehmenswandel, Wiesbaden 2000.

Kaninke, M. (2004): Analyse strategischer Risiken, Frankfurt am Main 2004.

Kanzian, R./ List, W. (2002): Integrierte Managementsysteme – Auf der Basis von Umweltmanagementsystemen zum Unternehmenserfolg, Wien 2002.

Kessler, H./Winkelhofer, G. (2002): Projektmanagement – Leitfaden zur Steuerung und Führung von Projekten, 3rd Edition, Berlin/Heidelberg/New York 2002.

Kerzner, H. (2003): Projekt Management – Ein systemorientierter Ansatz zur Planung und Steuerung, 8th Edition, Bonn 2003.

Ebers, M./Gotsch, W. (1999): Institutionenökonomische Theorien der Organisation. In: Kieser, A. (Publisher): Organisationstheorien, 3rd Edition, Stuttgart/Berlin/Köln 1999.

Kühn, F. (2002): Facetten des Multiprojektmanagements. In: Hirzel, M./Kühn, F./Wollmann, P. (Publishers): Multiprojektmanagement, Frankfurt am Main 2003.

Lock, D. (2003): Project Management, 8th Edition, Aldershot 2003.

Lomnitz, G. (2003): Multiprojektmanagement - Projekte erfolgreich planen, vernetzen und steuern, 2nd Edition, Frankfurt 2003.

Lorth, M. (2000): Optimale Risikoallokation in Zulieferer-Abnehmer-Systemen. Wiesbaden 2000.

Macharzina, K. (2003): Unternehmensführung, 4th Edition, Wiesbaden 2003.

Maddaus, B. J. (2000): Handbuch Projektmanagement, 6th. Edition., Stuttgart 2000.

- Meredith, J. R./Mantel, S. J. (2003): *Project Management – A Managerial Approach*, 5th Edition, New York 2003.
- Meyding, T./Mörsdorf, R. (1999): Neuregelungen durch das KonTraG und Tendenzen in der Rechtsprechung. In: Saitz, B./Braun, F. (Publishers.): *Das Kontroll- und Transparenzgesetz – Herausforderungen und Chancen für das Risikomanagement*, Wiesbaden 1999.
- Müller, C. (2000): *Produktinnovation durch Projektmanagement*, Wiesbaden 2000.
- Neubauer, M. (2003): *Krisenmanagement in Projekten – Handeln wenn Probleme eskalieren*, Berlin/Heidelberg/New York 2003.
- Neubürger, K. (1989): *Chancen- und Risikobeurteilung im strategischen Management*, Stuttgart 1989.
- Nieschlag, R./Dichtl, E./Hörschgen, H. (2002): *Marketing*, 18th. Edition, Berlin 2002.
- Romeike, F. (2005): *Risikokategorien im Überblick*. In: Romeike, F. (Publisher.): *Modernes Risikomanagement*, Weinheim 2005.
- Schröder, J. H. (1973): *Projekt-Management. Eine Führungskonzeption für außergewöhnliche Vorhaben*, Wiesbaden 1973.
- Steinbuch, P. A. (2000): *Projektorganisation und Projektmanagement*, 2nd. Edition, Ludwigshafen (Rhein) 2000.
- Vahs, D. (2003): *Organisation – Einführung in die Organisationstheorie und –Praxis*, 4th. Edition, Stuttgart 2003.
- Williamson, O. E. (1996): *Transaktionskostenökonomik*, 2nd Edition, Hamburg 1996.
- Wolf, K./Runzheimer, B. (2003): *Risikomanagement und KonTraG*, 4th Edition, Wiesbaden 2003.
- Wollmann, P. (2002): *Multiprojektmanagement im Kontext der Strategischen Planung*. In: Hirzel, M./Kühn, F./Wollmann, P. (Publishers): *Multiprojektmanagement*, Frankfurt am Main 2003.

Wollmann, P./Pleuger, G. (2002): Risikomanagement im Multiprojecting. In: Hirzel, M./Kühn, F./Wollmann, P. (Publishers): Multiprojektmanagement, Frankfurt am Main 2003.

Zielasek, G. (1999): Projektmanagement als Führungskonzept – Erfolgreich durch Aktivierung aller Unternehmensebenen, 2nd. Edition, Berlin/Heidelberg/ New York 1999.

CASE STUDY - THE MEXICAN BREWERY CERBUENA

Suela Haxhiraj
Patrick Planing
Özlem Bingöl

EXECUTIVE SUMMARY

This is a study of a case adopted from “Management-Kompetenz durch Fallstudientechnik. Talente erkennen und entwickeln” by Jürgen Janovsky, Bijan Khashabian and David Pilarek. The study gives an insight into the beer market in Germany. Strategic options are considered for the market share increase of a Mexican brewery in the shrinking German market. An in-depth analysis is made on the most important strategic factors influencing the development of the German beer market, global and local players and the consumer trends. Primary research has also been conducted for detailed information about local breweries. Finally the company was analyzed within the German market and also around the world and, in the light of this information, basic suggestions are provided to the case.

Krombacher, the largest beer brand in Germany, has a market share below 5%, and all specialty and niche products have market shares below 1%. This shows us that the German beer market is highly fragmented. Being realistic about the possible market share that the company can achieve in such a market, we propose that a market share of 1% could be reached in three years: however, such a figure is aggressive given German beer market conditions.

The Group Cerbuena should concentrate its strategy in two directions: First, the existing brand Puebla should be strengthened through marketing activities, increasing the brand awareness, enforcing the brand image and creating new distribution channels. The transportation costs, currently accounting for 40% of the total costs, can be reduced by shifting the packaging segment of the value chain to Europe. Higher profits will be generated due to the decrease in transportation costs. The generated income can be used for financing some of the marketing activities to support the same product.

Another direction, considered a mid-term strategy of the company, is the acquisition of regional German breweries. In a market in which the population is emotionally attached to local brands, feeling is more important than the product itself. Moreover, Germany's 1300 breweries have operations only regionally, constituting almost half of the number of local breweries in Europe. Therefore, it is not possible to appeal to the German market ignoring these local attachments. Three to eight local breweries in one region should be acquired,

and by connecting their competencies, economies of scale should be created.

In the coming sections, the potential for globalization of the beer industry will be evaluated. Below, we discuss the trends, market conditions, and competitors, along with feasible and promising recommendations for solutions for your company. We are looking forward to working with you.

1. INTRODUCTION

1.1 Case overview

The Cerbuena Company is the biggest brewery in Mexico with a total output of 5 Million hectolitre per year, two-thirds of which is being produced for the export markets. The company is well known for its brand Puebla, which is currently the most sold import beer in the USA. In the European market, however, Cerbuena has not achieved more than a niche status to date.

The company has a modern production facility following US standards and is purchasing raw materials of high quality at a very competitive price on the South American market. The company's main problem results from a lack of international management skills to operate the foreign subsidiaries.

The Puebla brand has managed to increase sales in Germany by around 150% per year and currently holds a market share of 0.1%. It is positioned in the niche market of import beers, and it is primarily considered to be a "snob" product by German customers. Management plans to increase the market share of Cerbuena in Germany significantly and is therefore seeking solutions either to increase the market share of its existing products or to introduce new products to the market.

1.2 Potential for globalization of the beer industry

Globalization in the beer industry has been proceeding at a much slower pace than in other related businesses. For example, in the soft drink sector, the top four producers share 80% of the market, whereas in the beer sector the top four producers share only 20% of the market. Traditionally, the beer industry has thrived domestically, but with the rise of globalization, the dynamics of production and marketing have changed. The openings of new markets with the reduction of trade barriers, along with technological advances in production and transport, have lead to important transformations in this industry. International brands are now taking hold in the 21st century due to these new dynamics. Recognizing that mature domestic markets lack room for adequate growth, breweries seek growth through acquisitions and mergers in emerging markets, such as China, and other markets in Asia and Latin America. On the other hand, other smaller breweries continue to uphold tested regional marketing, production, and distribution strategies of the past.

Globalization has had an impact on the beer industry by transforming its traditional domestic structure into an internationalized structure. It positively affects the industry by introducing new products that otherwise would have been unavailable to international markets.

For the major players, growth through consolidation gives brewers greater efficiencies and economies of scale. It also increases utilization of industry capacity. Globalization gives brewers the opportunity to expand into markets with more growth potential than their home markets.

However, it is not possible to say that beer is a global product. Global products need standardization to benefit from economies of scale. Global companies mostly have their operations where it is most efficient and beneficial. It is not possible for the beer industry to say this. Even if the companies are heading for acquisitions and mergers, their objective is not to standardize the product in every aspect. All different kinds of brands create different perceptions for the customers. And what can be more important than the product itself in the beer industry is the branding - the feeling it gives - which differentiates the products in the minds of the customers even more.

2. IMPROVED CAPACITY UTILIZATION FOR CERBUENA THROUGH ENTRY INTO THE GERMAN MARKET

Increased capacity utilization in Mexico can only be achieved through exporting more beer to Germany. Since our strategy includes intensive marketing efforts to increase the market share of Puebla in Germany (see Chapter 6.1) it can be expected that there will be an increased export of Puebla to Germany. In the following three different scenarios, we consider an increased market share of Puebla of 0.3, 0.5 and 0.8 percent of the German beer market.

- Total production of Cerbuena: 5,000,000 hl / year, capacity utilization 80%, resulting total capacity = 6,250,000 hl / year
- Current market share of Puebla: 0.1 % of the German beer market (105,000,000 hl / year), or 105,000 hl / year
- Scenario 1 (0.3%) = increased sales of 210,000 hl / year, equals 3.4 % of Cerbuena's capacity
- Scenario 2 (0.5%) = increased sales of 420,000 hl / year, equals 6.7 % of Cerbuena's capacity
- Scenario 3 (0.8%) = increased sales of 735,000 hl / year, equals 11.8 % of Cerbuena's capacity
- Scenario 4: If all the remaining unutilized capacity is used to produce Puebla, the situation will be as described below:

Increased sales by 1,145,000 hl/year would mean reaching 1.19% of market share in

Germany. This puts this scenario into question, even with the increased efforts on the marketing mix; it is decisively not feasible as the market is so fragmented and, at the same time, diminishing. Therefore, it cannot absorb the large amount required by scenario 4. Assuming the most optimistic scenario, we would have 0.8% of the market share in Germany (11.8% of utilized remaining capacity for Germany), and 8.2% of remaining capacity (meaning 512,500 hl/year) could be streamed to another country.

With increased marketing efforts for Puebla in Germany, the capacity utilization in the Mexican brewery can be improved, albeit only slightly. Full capacity utilization is not realistic when only considering the German market, even under the most positive scenario.

3. TRENDS IN THE GERMAN BEER MARKET AND INDUSTRY

- Decline of breweries in Germany (Brauereisterben)

Brauereisterben is a term to describe the decline of breweries in Germany. More and more Germans are turning away from beer and more and more breweries are closing, cutting jobs or they are being sold to large, global brewing conglomerates like InBev (the company resulting from the recent *merger* of Belgium's Interbrew and the American Beverage Corporation) or the Heineken group. Whereas in 1994, Germans consumed 108 million hectoliters, by 2003 that number had dropped to under 94 million according to the German Federal Statistical Office.

- Breweries being sold to big international consortiums or changing product features and/or target to survive in the market

Even as many of the country's breweries (over 1260 representing more than three-quarters of the European total) are being sold to international consortiums -- more than two dozen German breweries changed hands in 2004 and the trend is likely to accelerate --, many more are looking at trying to make their products more attractive to young consumers. Beer mixtures are slowly becoming more popular, and packaging is gradually moving away from the staid brown bottle. Indeed, the brewer's association is doing what they can to help beer makers improve on the drink's stodgy image.

- No cans in the German beer market

A 25-cent deposit levied on **cans** has virtually eliminated canned beer from the German market, with 80 % of Germany's 5,000 brands now being sold in reusable containers.¹

- Steady fall of beer consumption in Germany

Consumption of beer was 113.9 litres per inhabitant in 2003. In 2003, the total amount of beer consumed in Germany amounted to 93.9 million hectolitres (incl. mixed beer drinks, but excl. non-alcoholic beer and malt drinks). As reported by the Federal Statistical

¹ Source: Deutsche Welle

Office on the occasion of BRAU Bevale, the annual event of the European beverages industry, which took place in Nuremberg from November 10 to 12, 2004, the average consumption of beer per inhabitant hence amounted to 113.9 litres in 2003. This amount nearly corresponds to a small bottle of beer (0.33 l) per day².

Change in Beer Consumption since 1994 ¹⁾		
Year	Beer	
	Total	per Person
	Mill. hl	L
1994	108.0	132.7
1995	107.1	131.1
1996	104.3	127.3
1997	103.9	126.7
1998	100.9	123.0
1999	101.1	123.1
2000	99.5	121.0
2001	97.4	118.3
2002	97.1	117.7
2003	93.9	113.9
1) Excluding non-alcoholic beer and malt drinks.		

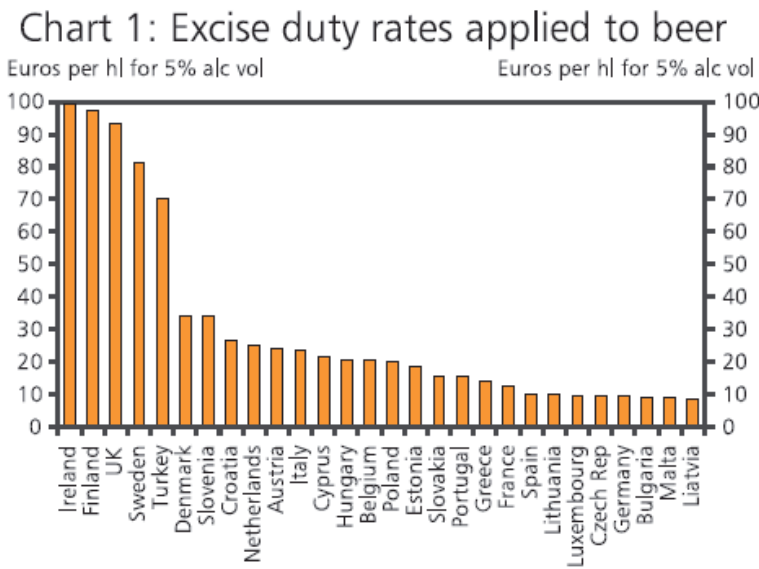
Change in Beer Sales in Germany						
Year	Total Sales	Portion which is:		Total Sales	Portion which is:	
		Taxed	Untaxed		Taxed	Untaxed
	Billion Hectoliters			Variance from previous year in %		
1996	112.8	103.5	9.3	2.1	2.7	4.4
1997	112.7	103.1	9.5	0.1	0.3	2.4
1998	109.4	100.2	9.2	2.9	2.9	- 3.3
1999	110.1	100.4	9.7	0.7	0.2	5.7
2000	109.8	98.8	11.0	0.3	1.6	13.0
2001	107.8	96.7	11.1	1.8	2.1	0.7
2002	107.8	96.5	11.3	0.0	0.3	1.9
2003	105.6	93.3	12.3	2.0	3.3	9.1

² Source: Federal Statistical Office 2004

2004	105.9	92.0	13.9	0.3	—	12.9
2005	105.3	91.2	14.1	—	1.4	1.8
				0.5	0.8	

- **Polarization of prices in the beer market**

The polarization of prices into high-priced premium beers on the one hand – including specialties of smaller regional breweries –, and beers in the entry-level price range on the other hand, reflects changes in spending habits. Consumers are not convinced by medium-priced mass beers, whether by price arguments or through up-market lifestyle positioning. In 2001, conventional advertising recorded a decline in gross expenditures on beer advertising from EUR 387.4 million to EUR 360.2 million (-7 %). The sponsoring sector is also being affected by savings. The trend was maintained in the first five months of 2002³.



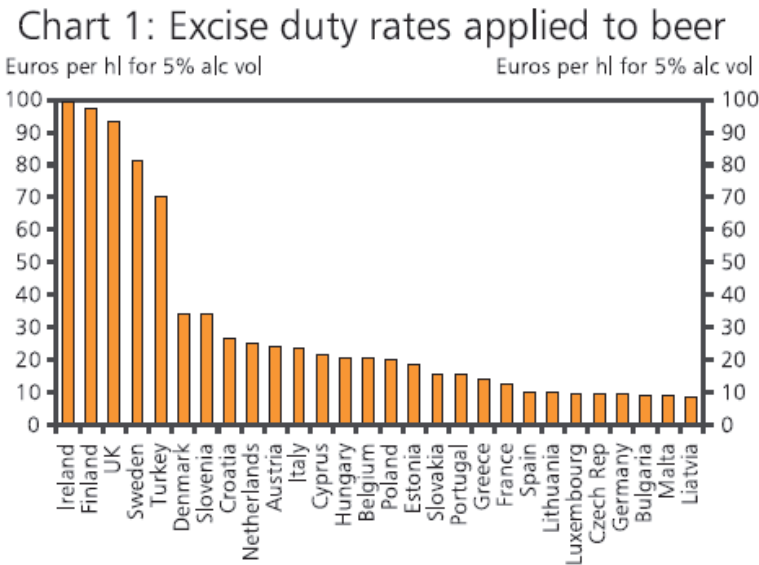
Source: European Commission and industry sources

- **Excise duty of beer in Germany**

Beer excise duty rates range from almost EUR 100 per hl in Ireland, Finland and the UK to less than EUR 10 in Luxembourg, the Czech Republic, Germany, Bulgaria, Malta, Latvia and Romania (Chart 1). The duty rate in the highest tax country is more than eleven times that in the lowest tax country! Excise taxes on beer in Norway are even higher - over

³ Source: Axel Springer Verlag Ag, Marketing Anzeigen

EUR 200 per hl⁴.



Source: European Commission and industry sources

As chart 6 shows, retail selling prices for beer in the off-trade (e.g., in supermarkets, shops and off-licenses) range from over EUR 3.00 per liter in Ireland and Finland (and also Norway) to less than EUR 1.00 per liter in Germany, Poland, Czech Republic, Bulgaria and Romania.

⁴ Source: Report for the brewers of Europe by Oxford Economic Forecasting, January 2006: 6

4. COMPETITOR ANALYSIS

On a national level, consolidation takes place even faster than on a regional level. The big brewery corporations are constantly purchasing competitors to defend their market share. Currently the biggest players on a national level are Radeberger (German), Interbrew (Belgium), Bitburger (German) and Heineken (Netherlands).

Overview German Beer Market – Biggest Companies and their Brands:

No.	Company	Most Important Brands	Output(Mio hl)
1.	Radeberger	Radeberger, Binding, Schöfferhofer, Allgäuer Brauhaus, Sailer Bräu, Brau und Brunnen (incl. Jever, Berliner Pilsner, Tucher)	15.8
2.	Interbrew Deutschland	Beck's, Diebels, Gilde, Spaten-Franziskaner, Löwenbräu, Dinkelacker	14.2
3.	Bitburger	Bitburger, Köstritzer, Wernesgrüner, Licher, König	8.8
4.	Heineken	Heineken, Bayerische Brauholding (incl. Paulaner, Kulmbacher-Gruppe), 50 % Karlsberg-Verbund Bier Deutschland	8.7
5.	Carlsberg	Carlsberg, Tuborg, Holsten-Gruppe, Hannen	6.8
6.	Warsteiner-Gruppe Hans Cramer	Warsteiner, Paderborner, Isenbeck, Weißenburg, 50 % Schlossbrauerei Kaltenberg	6.0
7.	Oettinger	Original Oettinger (Braustätten Oettingen, Gotha, Dessow, Schwerin, Mönchengladbach)	6.0
8.	Krombacher Brauerei	Krombacher, Rhenania Alt	5.4

Source: BIER Report -, S.13, Die Welt; Stand: 27.11.2004

In terms of production output and economies of scale, Cerbuena with its global output of 5 Mio hl, certainly has the potential to compete with the current market players.

Another feature of the market is that most big brewery corporations own various brands aimed at various target groups and market niches. With a single brand (Puebla), it will certainly not be possible to compete with the current market players, so Cerbuena has to build (or purchase) a portfolio of brands aimed at different target groups.

5. BASIC STRATEGIC OPTIONS TO INCREASE THE MARKET SHARE

There are two strategic options that can be used for the penetration of the German beer market for Cerbuena. First of all, the brand Puebla has been a very strong and successful brand all over the world accounting, for the number one imported beer in the US market. In Germany the market conditions are different. The market is fragmented and the consumption level is decreasing. Moreover, people are bound to their local breweries. Germany, having the highest beer consumption in Europe, has a promising potential for the imported beer niche market. Moreover, even though Puebla has a market share under 1% right now, since 1998 it has realized an increase of 150%, which is a number that must not be ignored for its future growth potential.

Therefore, the first strategy is to strengthen the existing position of Puebla in the German beer market. The efforts should be concentrated on increasing the brand awareness and strengthening the brand image through advertising, sponsorships to sports events, etc. New distribution channels should be created, where on-premise counts for an important one. Through these strategies, sales will be increased due to on-premise sales and individual sales with the increasing brand awareness. The targeting of feelings is very important because the perception is more important than the product itself. The disadvantage of this strategy is the need for strong financial resources for costly marketing efforts.

There is a high tendency in the German beer market to consume local brands. People are attached to the brand itself rather than the product. Most of the 1300 breweries in Germany have operations only regionally. As mentioned earlier in our analysis, there is an increasing trend of the large-scale companies to buy the local brands to increase their competitiveness and market share. Therefore, the third strategic option is to acquire three to eight local breweries in one region and increase their efficiency through economies of scale. One of the risks that might be faced is the lack of coordination between the breweries and failure to benefit from economies of scale.

Consequently, these two options are recommended for Cerbuena. Puebla currently exists in the market, has a certain market share and experienced 150% increase, which must not be neglected. The best strategic choice is to strengthen Puebla and acquire local breweries and benefit from their existing local brands, to which people have been attached for centuries. The two strategic options will be discussed in detail in the following section.

5.1. Strategy to enforce Puebla's current market position

5.1.1 Market Analysis

Target Market Characteristics

Market Niche: Import-Beer

Cerbuena first brand in Germany – Puebla – was placed into a certain market niche of high priced import beers. The overall perception in this niche is that the products are exotic and are luxury items. Puebla is targeted at younger, trendy consumers. Competition in this niche is constantly increasing year by year; however the niche market volume is increasing as well. Currently total imports of beer to Germany account for only about 3 Mio. hl (about 3.5% of the total German beer market).

	1998	1999	2000	2001	2002	2003*	2004
Total imports (in Mio. hl)	2.823	3.054	3.689	3.806	3.305	3.066	3.123
% of Total consumption	2.7	2.9	3.1	3.8	3.3	3.2	3.3

Source: German Brewery Association.

Direct competitors in this Niche:

- Desperados (brewed in France but Mexican perception)
- Dos Equis (Mexico)
- Sol (Mexico)
- Fosters (brewed in France but Australian perception)
- Amstel (Netherlands)
- San Miguel (Spain)
- Budweiser (Czech Republik)
- Miller (USA)
- Guinness (Ireland)

Beer-Mix beverages as a substitute product

Beer-Mix is a completely different niche, however since this niche is aiming at almost the same target group substitution effects from this niche have to be considered. The Beer-Mix niche is about 4.5% of the total German beer market (Source: GEVA) and was growing by 15.3% last year (German Brewery Association). This niche is characterized by heavy competition and constant development of new, generic brands.

Market Niche: Premium Beer-Mix Beverages

Best known brands:

- Karlsberg Mixery
- Veltins V+
- Cab Cola & Beer
- Diebels Dimix
- Beck's green lemon

Alcopops

Another emerging market niche is alcopops, lemonade-mix beverages usually made with vodka or other spirits. These beverages can also be substitutes for beer; however, since these beverages do not contain beer or beer-like ingredients, they cannot be regarded as real competitors. Another fact is that these beverages are mainly targeted at younger drinkers (usually under 18) than Puebla.

5.1.2. Form, Timing and Product Mix

Puebla is produced in Mexico and transported to Germany. Transportation costs amount to 40% of the total cost. Therefore, there is a need to shift part of the value chain to the bridgehead to be able to decrease cost. Production will be kept in Mexico where benefits of economies of scale can be enjoyed. However, transportation will be made by containers and bottling process can be shifted to the bridgehead.

Currently, the market share of Puebla in Germany is 0.1%; however, there has been 150% increase realized since 1998. So in order to increase the market share and accelerate the speed, there must be concentration on advertising. Feelings are perceived to be more important by the customers than the actual product itself. The feeling of being "free and independent" should be emphasized and the association with the beer "always served with a lime in the neck" is important. The brand is known as a product for snobs in the German beer market. The snob image, being different than others, being unique, free and independent has to be strengthened. The current slogan, "miles away from ordinary", needs also to be transmitted to the German market (please refer to a typical ad supporting this campaign in http://www.Pueblaextra.ca/Extra/tv_spots.aspx - PDA spot). These advertising campaigns should be conducted through sponsorships, concerts, parties, sporting events, entertainment facilities, etc.

The company should focus on on-premise sales to better position the Puebla image as a snob product and Mexican beer. An option: "Puebla Week" campaign involves the participation of many Puebla promoters organizing games in selected "trendy" clubs and

pubs. Promotional Puebla accessories are distributed during this event. A suggestion to enrich the promotional campaign is to base it on the slogan **“Puebla – the real Mexican beer”** (it indirectly attacks our main competitors⁵ in Germany and it is within ethical rules at the same time). These on-premise promotional events are to be connected also to the trend of Latin music, which is gaining audience in the European market. Therefore „Latin music nights” can be organized to promote the „real Mexican beer”⁶.

Following the seasonality of beer consumption in Germany, the best period to base the promotional activities through the year is May through August.; therefore, the main promotional campaigns should be held during this period. This option is in line with the type of marketing activities and on-premise promotions suggested above in this section.

5.2. Acquire regional breweries

5.2.1 Market Analysis

Most of the 1300 breweries in Germany have only regional activities and are usually limited to their hometown or a rural region. Sometimes there are two or more local breweries operating in the same region; however, in recent years a consolidating progress took place. Most regions are therefore currently dominated by one local brewery. In this market, the local brand is more important than the company brewing it. Hence, buying an existing local brand, which dominates in a certain region, would give Cerbuena a regional monopolist position.

PRIMARY RESEARCH

SPÖ Consulting GmbH has been conducting primary research as complementary to the qualified existing studies on the beer market situation in Germany. We made a visit to a local brewery in proximity to our HQ locations. The brewery considered is located in Tübingen. Please find below some extended data on this local brewery:

Brand: XXX, Weisse- hell (unfiltered „white“ wheat beer), Weisse – dunkel (dark wheat beer).

The brewery is located within the city of Tübingen, with equipment that has been little depreciated (relatively new equipment). It is also connected to a “Bier Garten” and a restaurant by the river in the city. The brewery is connected to a well-known old traditional beer brewery: Fischer.⁷

The price for the brewery as presented to us by the owner is EUR 2 million (Brewery),

⁵ Ex. Desperados which is brewed in France, but target market makes the association with a Mexican, Spanish beer.

⁶ For example dancing competition, with promotional Puebla accessories given as a prize, could be organized.

⁷ Fischer is also sold at this Bier Garten

but when considered together with the restaurant, the price is significantly higher⁸. Moreover, buying both activities together would be a strategic option to be implemented by Cerbuena. This is because Germans tend to associate their local beer brands with the local dishes and specialties; therefore, the core product (beer) is vested with additional services (local culinary experience), which better addresses the target regional market needs. This finding would be emphasized by the marketing advice of a worldwide expert, Philip Kotler, who states, “*We’re not just adding services to our business and our product; we’re actually trying to design an experience*” (Kotler, interview to CNN, June 2005). So the product in this case also tries to be in line with the existing tradition of “a local beer” from the German beer consumers.

At the same time, the price for this brewery is in line with the budget that Cerbuena has available to use for the German market in the coming years.

However, this particular option need not be considered exclusively, as many other local breweries may be considered.

Our main aim in conducting the primary research was to find a typical case of a small local brewery that might be considered by Cerbuena. At the same time we made our research in Baden-Württemberg as there is less competition than in Bavaria (where there is more consumption of beer, but very high competition as nearly half of all German local breweries are located there) Baden-Württemberg can be a starting point to gain enough confidence and know-how in the German local markets to be used then as a “bridgehead” to other local markets in Germany. Other studies could be developed throughout the rest

of Germany to find the most appropriate and feasible option for acquiring a local brewery.

5.2.2. *Time, Form and Product Mix*

Since local beer markets in Germany are characterized by a very strong brand loyalty and most local brewers have a long tradition and heritage, the only way to enter this market is by purchasing an existing small to middle-sized brewery. Reduced beer consumption in Germany and an overall economic stagnation led many local breweries to difficult financial circumstances, which has enabled foreign investors to buy in at a relatively low price level. The main intention is to buy between five and eight struggling but potential local breweries and merge their operations in a way described in the next chapters. By optimizing their activities, the breweries are expected to reach break-even and generate surplus within one to two years. Afterwards, a constant step-by-step expansion from one region to another is planned, which would lead to a constantly rising market share. Following this strategy, a market share of local brands of 0.2 to 0.3 % could be reached within two to three years.

⁸ Please note the price flexibility when starting the negotiation phase.

Timing – According to the section 6.1.2 in this study, the best period of sales is from May to August, where May is the peak of sales. This period should be considered as a prime starting point for manufacturing at the newly acquired local brewery. However, it is very important to account for the pre-acquisition period, which, according to past experience, takes several months. Therefore, negotiations should start as soon as a potential local brewery is found (please refer to section 6.2.1 on possible option/s) to leave a time span of several months before the optimum selling period. One suggestion is to start the negotiation process in September in order to be able to enter the market with the local brand during April or May.

5.2.3. *Advantages of going local*

Characteristic of the fragmented local brewery market in Germany is the fact that most local brewers operate independently and refrain from building strategic alliances with other brewers. This creates great potential for foreign investors, since buying local breweries and merging their operations results in advantages through economies of scale.

This strategic option was analyzed in 2005 by the KPMG group who came to the following result:

By cooperating or merging local breweries in Germany, strategic advantages can be obtained in various fields, for example⁹:

- in production, by bundling production capacities, i.e., in the filling process
- in overhead, i.e., by using a common computing platform
- in logistics, i.e., through using common distributors and transport companies
- in sales, i.e., through product exchange between pilsner and wheat beer breweries (concentration of production and widening of product portfolio)

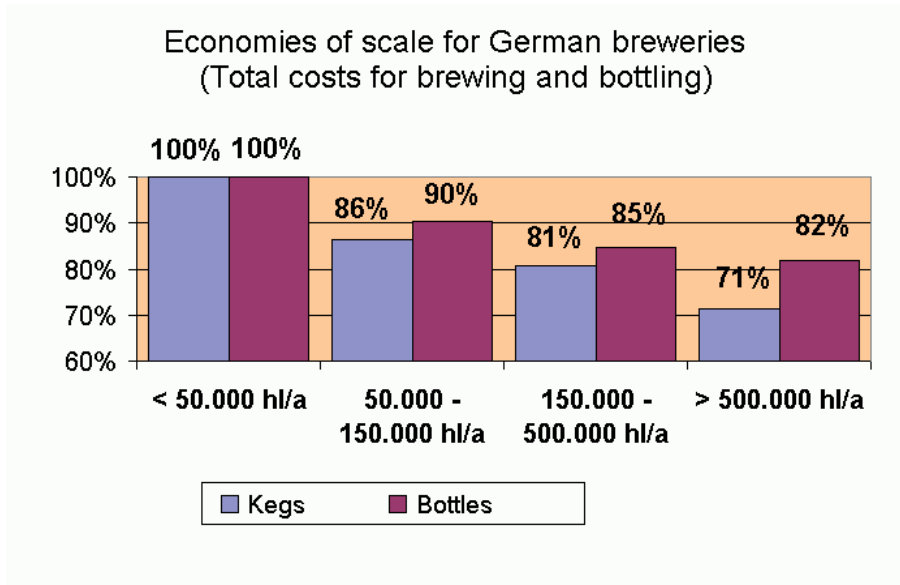
In the planning process, it is necessary to pay special attention to:

- an organization that fits the needs of the new structure
- clear focus on the overall company strategy
- an optimal integration of every local brewery in the company

By applying these measurements, the overall costs are expected to decrease by about 20%, which therefore enables Cerbuena to turn these struggling breweries into profitable ones. These expectations are also backed up by a study performed by the Bavarian Breweries Association, which states that a cost reduction of about 20% can be achieved

⁹ Source: KPMG Germany 2005 „Der deutsche Biermarkt im Wandel

by increasing company size of a brewery, see graphic below:



Source: Bavarian Breweries Association (Bayrischer Brauerbund) 2004

6. ORGANIZATIONAL STRUCTURE

There are three types of organizational structures: divisional, functional and matrix. Cerbuena is an international company operating in more than 120 countries. At the moment, Cerbuena's International Division works through six subsidiaries that act as consultants for importers in 120 countries. Procermex, with offices in San Antonio, Texas, takes care of the US territory; Canacermex, in Quebec, takes care of Canada; Eurocermex, with its headquarters in Belgium, looks after Africa, the Middle East, and all Europe except for Spain, which, because of the ties of affection with the country of origin of the Group's founders, is dealt with by a dedicated company.

Matrix types of organizations have a lot advantages when managed correctly; however, Cerbuena is facing management problems and lacks management expertise in different countries. Therefore, it will be too complicated to change the entire organizational structure to matrix.

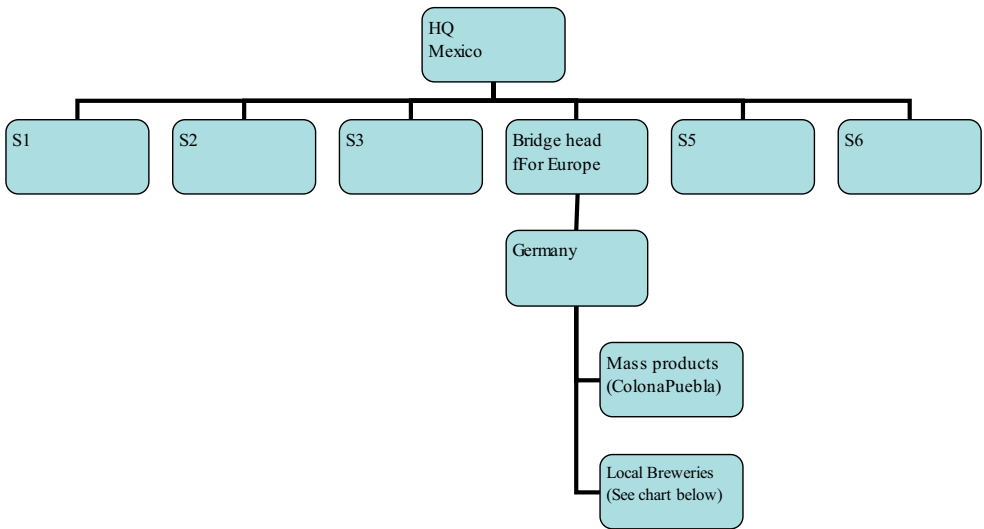
Beer markets in different countries differ from each other by several aspects, such as competition, market characteristics, etc. There is a need for local adaptation, especially for marketing and sales activities; therefore, a functional structure will not be able to react to the market needs properly. The best solution would be to keep the divisional structure

for Cerbuena,

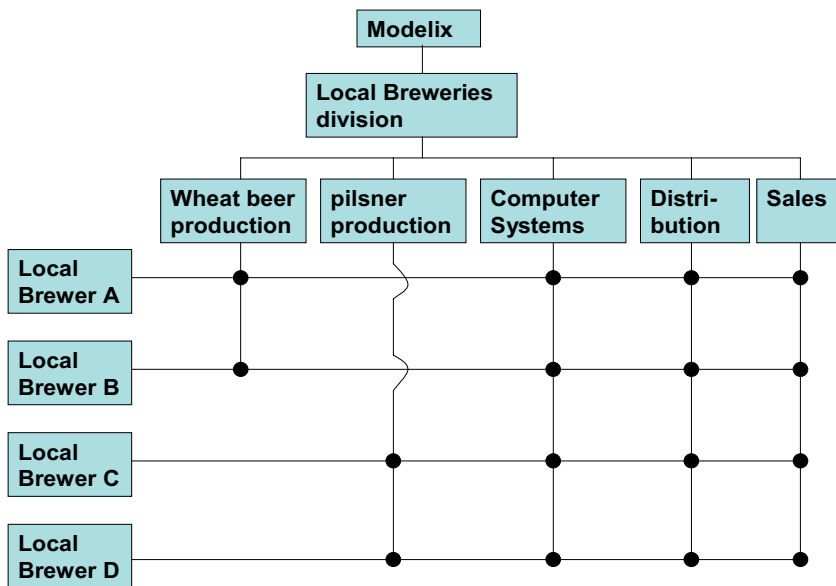
However, it is important to handle the new kind of organization between the local breweries. It is very hard to manage the newly-acquired companies from abroad through a divisional structure only. In this case, a matrix sub-organization offers the best solution for organizing the centralized business units for the local breweries. However, as in any matrix organization, it is very important to clearly state rules and responsibilities for the intersections between the activities and the localities.

For the local breweries, a different organizational structure is needed in order to reach the aforementioned advantages of economies of scale. The basic idea is to bundle as many activities as possible while protecting the local breweries knowledge. One possibility is to first determine the activities that should be centralized and then analyze all local breweries to identify in which of them one specific activity is handled best. Then the brewery with, for instance, the most advanced computing system will be the headquarters for computing for all breweries, and its system will be adapted at all other breweries.

The global organizational structure:



Organizational structure for local breweries



7. CONCLUSION

Given the situation of the Mexican brewery Cerbuena and the attempts to enforce its market position in Germany, we started with analyzing the trends in the beer industry. As a first step, the internationalization of this product was analyzed. Though internationalization and standardization is a general trend in merchandising products, the beer industry is an exception in this context. Beer branding is crucial for companies to survive in the market; therefore, beer cannot be standardized internationally. This conclusion is amplified by the condition of an extremely fragmented beer market, such as the one in Germany.

We continued in the second step of our analysis to find possible ways of improving utilization of capacity. Several scenarios were considered. Due to the high competition faced in the German beer market, full capacity utilization could not be absorbed from the given market. However, utilizing the full capacity could be made possible through streaming part of it in other neighboring European countries.

Given a shrinking beer market and a shift of tastes towards alcopops and non-alcoholic beer in Germany, we concluded to enforce marketing mix elements for our existing brand in Germany, i.e., Puebla and at the same time, decided to exploit the opportunity of acquiring local breweries to increase production efficiency within the country. Only through the synergetic effect of these two strategies can Cerbuena make its way through the German beer market.

SENSITIVITY ANALYSIS AS A MANAGERIAL DECISION MAKING TOOL

Martina Briš, B.Sc.(Econ)
Faculty of Economics in Osijek

SUMMARY

Decision making is an integral part of operations management. It may be useful to a decision maker to have some indication of how sensitive an alternative choice might be to the changes in one or more of those values. Unfortunately, it is not possible to explore all the possible combinations of all the variables in a typical problem. In spite of this, there are some elements that a decision maker can use to assess the sensitivity of assumption probabilities. One of the tools useful for the analysis in some decision making problems is sensitivity analysis. It provides a range of feasibility over which the choice of alternative remains the same.

Successful decision making consists of several steps, the first and most important being carefully defining the problem. Given that linear problems can be extensive and complex, they are solved by using sophisticated computer methods. This paper will present software solutions available for personal computers (Lindo, POM). For a manager taking the decision, however, a solution model is only part of the answer. Sensitivity analysis offers a better understanding of the problem, different effects of limitations and “what if” questions. The insights obtained are frequently much more valuable than a specific numerical answer. One of the advantages of linear programming lies in the fact that it provides rich information on sensitivity analysis as a direct part of the solution.

Key words: feasibility range, linear programming, Lindo, POM, optimum solution, optimum range, sensitivity analysis.

1. ON SENSITIVITY ANALYSIS

Sensitivity analysis is a process of varying input parameters of a model within allowed area and observing the resulting changes in the model solution. It explores how changes in the model output can be qualitatively and quantitatively attributed to different change sources.

The purpose of sensitivity analysis is to indicate the sensitivity of simulation to uncertainties in the values of input data in the model.

Sensitivity analysis attempts to establish how the model depends on the attributed values, on its structure and on the assumptions it is based on. It is an important method for testing the quality of a given model, and it is also used for checking the reliability of the analysis.

Sensitivity analysis was originally devised to deal only with uncertainties in input variables and model parameters. Over time the analysis was expanded, insecurity was included also in the model structure, its assumptions and specifications. Generally speaking, sensitivity analysis is used to increase the reliability of a given model and its predictions by providing understanding of how model variables react to the input changes, whether they are data used for adjustments in the model structure, or factors, i.e. independent model variables.

Sensitivity analysis can be used to determine the following:

- Similarity of the model with the observed process,
- Quality of the model definition,
- Factors contributing the most to output variables,
- Areas in the input factor space for which there is maximum variation,
- Optimum area in the space of factors, which are used in subsequent exploration of adjustments,
- Interaction between factors.¹

Using sensitivity analysis is popular in financial applications, risk analysis, neural networks, and in all the areas where models are developed. Sensitivity analysis can also be used in model-based policy assessment studies.

Sensitivity analysis can be useful in different cases: when identifying key assumptions, or when comparing alternative model structures, when initiating future data collections, establishing important criteria, optimizing resource allocation, simplifying a model, etc.

2. LINEAR PROGRAMMING

Linear programming methods are the most important instrument in operations research, and one of the disciplines in mathematical optimizing.

Each linear programming method consists of the following:

- a) **LINEAR OBJECTIVE FUNCTION** – The objective of optimizing comes to the foreground here. It can be maximizing profits, but also minimizing costs. The objective is chosen depending on the problem structure. The objective function is a set that should meet the requirements of the decision maker.

¹ Sensitivity analysis – Wikipedia, The free encyclopedia, http://en.wikipedia.org/wiki/sensitivity_analysis (20.01.2007.)

- b) LINEAR RESTRICTIONS – They come from the environment of the decision maker and impose certain restrictions / conditions in terms of achieving the objective. The real limitation is the product of multiplication of time required to make one unit with the quantity. This product of multiplication must not be bigger than available capacity. The restrictions are always specified in the form of equations or inequations.
- c) CONDITIONS FOR VARIABLE NON-NEGATIVITY – for example, negative quantities of products cannot be produced.

THE GENERAL MATHEMATICAL FORMULA FOR LINEAR PROGRAMMIN IS AS FOLLOWS: ²

$$\max Z = c_1x_1 + c_2x_2 + \dots + c_nx_n$$

$$a_1x_1 + a_2x_2 + \dots + a_jx_j + \dots + a_nx_n \leq b_1$$

$$a_1x_1 + a_2x_2 + \dots + a_jx_j + \dots + a_nx_n \leq b_2$$

$$a_{m1}x_1 + a_{m2}x_2 + \dots + a_{jn}x_j + \dots + a_mx_n \leq b_m$$

$$x_1 \geq 0, x_2 \geq 0, x_n \geq 0$$

where:

m – is the number of restrictions,

n – is the volume of particular activities,

x_j – is the unknown activity j (structural variable),

a_{ij} – are technical coefficients which indicate how many units of a resource (restriction) are being spent for producing a unit x_j ,

b_i – is the size of the restricting factor,

c_j – is the profit per unit j.

² Barković, D.: Operacijska istraživanja, Ekonomski fakultet u Osijeku, Osijek, 2002., p. 58.

2.1. Computer software LINDO and POM for Windows

In order to explain sensitivity analysis, we shall use here the following problem in linear programming:

$$\begin{aligned}\max Z &= 300x_1 + 500x_2 \\ x_1 + 2x_2 &\leq 170 \\ x_1 + x_2 &\leq 150 \\ 3x_2 &\leq 180 \\ x_{1,2} &\geq 0\end{aligned}$$

To achieve the optimum solution we have used the widely available software for linear programming LINDO and POM for Windows.

The name LINDO is an acronym for Linear Interactive Discrete Optimization. The term “discrete” means skipping from one to another basic solution instead of circling within the permissible area seeking the optimum solution (if there is one).³

This software has an emphasis on operations research. It is a specialized programme which covers the topics such as linear/non-linear programming and combinatorial optimizations. It is not really intended for solving managerial problems; rather, it is more suitable as a learning tool for the methods of finding solutions in operations research, as well as for learning how to formulate an optimization problem in mathematical terms. This software could not be easily incorporated into the curriculum of the Operations Management course.

In contrast, software intended for studying operations management covers the same, if not a larger scope of material, and is generally well suited for solving the problems from one or several course books dealing with operations management.

The software with an emphasis on operations management is called POM for Windows. The name POM is the acronym for Production and Operations Management.

This programme offers elementary solutions for a wide range of operating problems. It contains several modules connected to operations research. The additional modules are assignment, linear programming, simulation, transport, etc.

Within the POM software, the user first has to select the desired module, or the window for entering the data will not open. After that, parameters are selected that will be used in the formulation, and finally, the data are entered.

³ Barković, D.: Operacijska istraživanja u investicijskom odlučivanju, Ekonomski fakultet u Osijeku, Osijek, 2004., str. 23.

3. AN EXAMPLE OF SENSITIVITY ANALYSIS

Both software programmes presented here use a simplex table. The majority of information required for sensitivity analysis is contained in the final simplex table. This and the data from the initial problem is sufficient to perform an analysis.

Figures 1 and 2 indicate the solutions provided by those two software programmes.

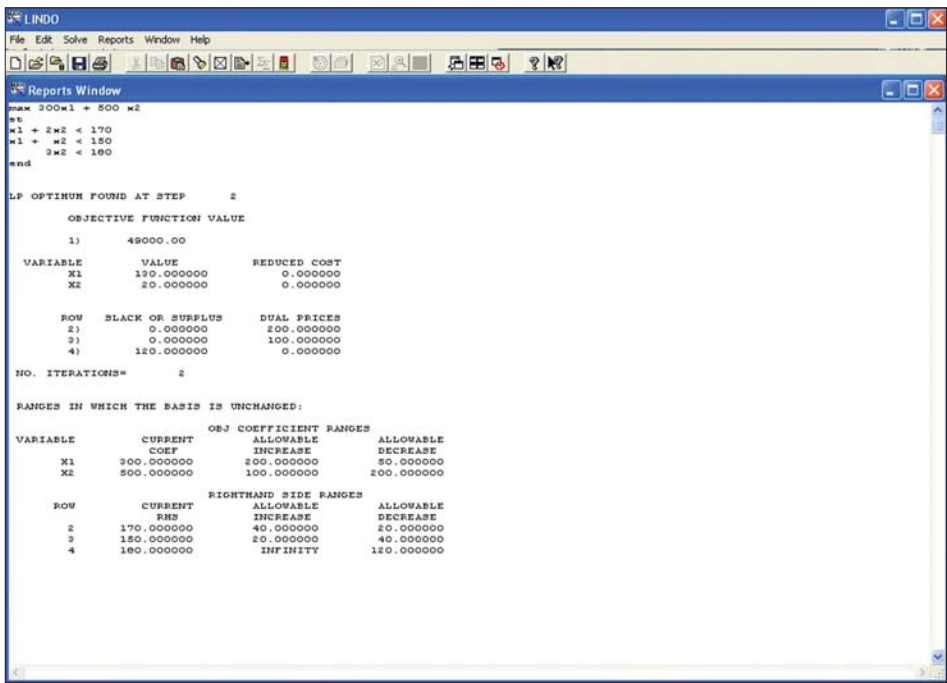


Figure 1. SOLUTION WITH A COPIED PROBLEM LP FROM THE INITIAL WINDOW (LINDO PROGRAMME)

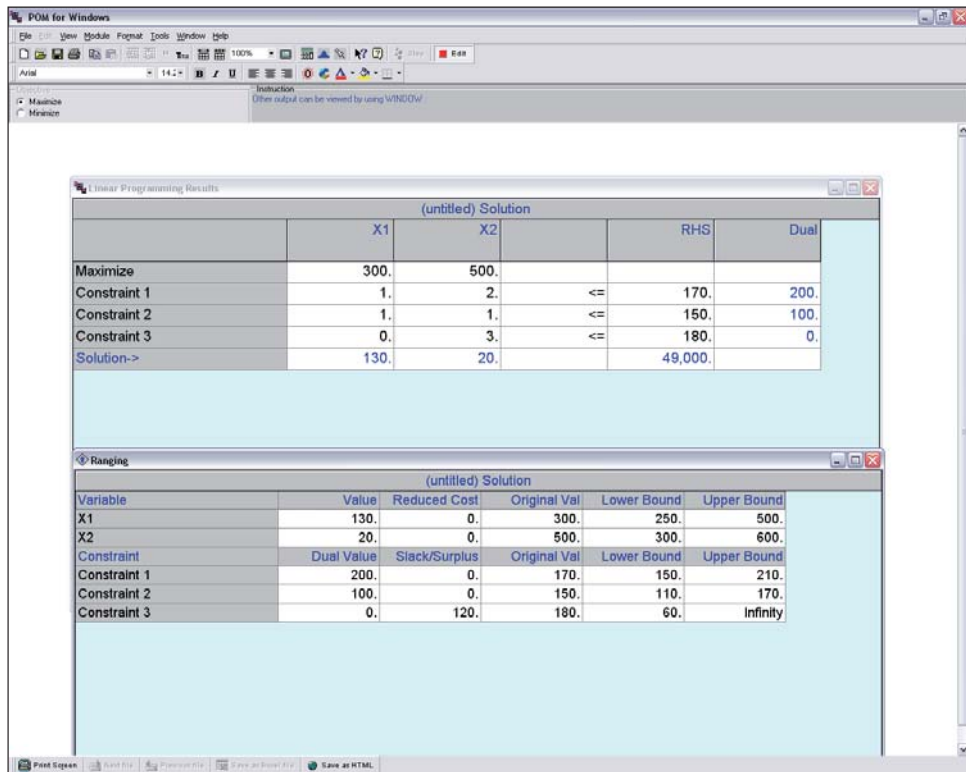


Figure 2. TWO WAYS OF SHOWING THE SOLUTION (POM for Windows)

After running the programme, the computer printout of sensitivity analysis for this particular problem shows us that the optimum solutions are:

$$x_1 = 130, \text{ and } x_2 = 20$$

at which the maximum profits of \$49,000.00 are achieved.

OPTIMUM SOLUTION is that combination of products which can result in the highest profit, i.e. the lowest cost (depending on the optimization objective).

As stated above, sensitivity analysis is a means for assessing the scope and effectiveness of potential changes on parameters of LP model.

a) COEFFICIENT CHANGES IN THE LINEAR OBJECTIVE FUNCTION

OPTIMUM RANGE is the range of values over which optimum values of decision

making variables will not be changed. (upper part of the table Ranging)

We differentiate LOWER BOUND and UPPER BOUND which indicates that the optimum solution will not change if the profit coefficient is moving between the lower and upper limit.

$$\begin{array}{ll} x_1 & 250 - 500 \\ x_2 & 300 - 600 \end{array}$$

The optimum solution remains, $x_1 = 130$, and $x_2 = 20$, however, the profit is no longer \$49,000.00. If the profit per unit x_1 is increased from 300 to 350, the total profit is then:

$$350 \times 130 + 500 \times 20 = \$55,500.00$$

since we receive \$50.00 of additional profit per product unit x_1 .

Let us assume that we have to report to our supervisor on the quantities of particular products our company should produce in order to maximize profits. Our supervisor could pose the following problem for us: our engineers have found the way of increasing the profit for the product x_2 from \$500.00 to \$550.00, and we should think about this and propose a new product mix. We do not really need time for considering this and can answer immediately. The optimum product mix remains $x_1 = 130$, and $x_2 = 20$ because the profit of \$550.00 is within optimality limits (which is observable from the LOWER – UPPER BOUND). The profit will be changed as we are now earning additional 50 dollars per product x_2 .

The profit will increase by $50 \times 20 = \$1,000.00$.

We cannot use sensitivity analysis to evaluate the changes in several coefficients simultaneously.

b) CHANGES IN RESTRICTION VALUES

FEASIBILITY RANGE is the range of values for RHS (right-hand side) restrictions over which dual prices remain the same.

Dual values or shadow prices are defined as the amount at which the values of the objective function will be changed with the change of one unit in the value of restriction. Dual values are marginal values for restrictions in our problem. A marginal value is the amount we are prepared to pay for an additional resource unit. This is not the original sales price for a resource but the price we need to pay in order to get more of a resource. (lower part of the table Ranging)

Dual values indicate that we will not be willing to engage an additional unit of restriction 3, since we are left with 120 units already when producing the optimum product mix.

$$\begin{aligned} 0 \times 130 + 3 \times 20 &\leq 180 \\ 60 &\leq 180 \end{aligned}$$

These are UNTIED RESTRICTIONS which have either slack or surplus⁴. An additional unit of such a restriction would result only in the increase of slack or surplus, and not in the increase of profits (or decrease of costs).

Unlike untied restrictions, TIED RESTRICTIONS force us to go beyond the optimum point. They have a certain amount for dual values (different from 0), and slack/surplus is 0. An additional unit of this restriction can enable us to increase the total profit (or decrease the total cost) by finding a new optimum solution.

Dual values 200 and 100 indicate that we will be willing to pay \$200.00 for each additional unit of restriction 1, and \$100.00 for each additional unit of restriction 2. We should not be prepared to pay more than \$200.00 for the restriction 1, because if we get one unit of restriction 1 more, the profit will rise by only \$200.00. Marginal values help in determining resource prices and making decisions on the purchase of new resources.

The purchase of additional units will change the optimum solution.

Dual values are not viable for unlimited supply of restrictions. From LOWER – UPPER BOUND we can see that the dual value for restriction 1 is valid in the range from 150 to 210.

We cannot use the feasibility range to evaluate the changes on more than one restriction simultaneously.

Let us assume that our boss says that he can acquire 30 additional units of restriction 1 for \$75.00 per unit. We would immediately advise him to buy all the 30 units since the quantity to date, i.e. $170 + 30 = 200$, which is within lower and upper limit. Each additional unit within feasibility range adds \$200.00 of profit. The total increase in profits will be

$$30 \times (\$200.00 - \$75.00) = \$3,750.00$$

On the other hand, if our boss were to tell us he can acquire 20 additional units of restriction 3 for only \$0.50, we would advise him not to buy any additional units of restriction 3 as $180 + 20 = 200$, which is within feasibility range, and in that case the

⁴ SLACK is an ADDITIONAL VARIABLE, it is an unused resource. SURPLUS is the production surplus.

dual value is 0. We already have 120 units more than we need (slack), and if we buy additional 20 units, our surplus will rise to 140 units.

The restriction is 180, and we have:

60	=>	SLACK
220	=>	SURPLUS

4. CONCLUSION

Decision makers are often concerned with more things than just a solution to a problem. He or she could benefit from the results of sensitivity analysis in several ways. While preparing the problem for processing by means of linear programming, a decision maker could use subjective assumptions for particular parameters (e.g. restriction coefficients, objective function coefficients and values of right-hand side restrictions). It is understandable that a decision maker wishes to know how sensitive the optimum solution is to the changes in values of one or more parameters. If the solution is relatively insensitive to reasonable changes, the decision maker can have more confidence in the application of his solution. In contrast, if the solution is sensitive to changes, he or she will want to determine much more precise assumptions on the basis of parameters in question.

The problem related to sensitivity analysis includes specific changes in parameters. For example, there can be a change in price which can alter the objective function coefficient. Furthermore, a change in the production process can require a change in the coefficient of one of the restrictions. Sensitivity analysis can provide an adequate insight into the problem for the decision maker. The third possibility is the question whether the purchase of high quantities of a resource would be beneficial. This question often arises when large quantities of resources are not used in the optimum solution; by adding more of other resources it is possible to achieve a disproportionate increase in the objective function value.

There are obviously numerous reasons why a decision maker may want to use sensitivity analysis.

5. REFERENCES

1. Barković, D.: Operacijska istraživanja, Ekonomski fakultet u Osijeku, Osijek, 2002.
2. Barković, D.: Operacijska istraživanja u investicijskom odlučivanju, Ekonomski fakultet u Osijeku, Osijek, 2004.
3. Bonini, Ch. P., Hausman, W.H., Bierman, H.: Quantitative Analysis for Management, Irwin/McGraw-Hill, New York, 1997.
4. Stevenson, W. J.: Production/Operations Management, Irwin, New York, 1993.

INTERNET SITES:

- <http://www.lindo.com> (17 January 2007)
- http://en.wikipedia.org/wiki/sensitivity_analysis (20 January 2007)
- <http://sensitivity-analysis.jrc.ec.europa.eu/forum/docs/Overview.html> (20 January 2007)
- <http://eu.wiley.com> (22 January 2007)
- <http://www.llnl.gov/casc/nsde/sensitivity.html> (25 January 2007)
- <http://www.hearne.com.au> (25 January 2007)
- <http://www.indiana.edu/~statmath/math/lindo/overview.html> (30 January 2007)

INFORMATION & COMMUNICATION TECHNOLOGY

PROTECTED WITH FIREWALLS

Lina Dečman, dipl. inž. rač. in inf.
postgraduate student,
prof. dr. Vladislav Rajkovič
prof. dr. Metod Černetič
Fakulteta za organizacijske vede

ABSTRACT

The goal of firewall is not antivirus protection, although it is true, that indirectly firewall does lower the chance of virus infection. Virus can get into system trough different ways. Most common ways of virus transfer into companies system us with programs, transferred and installed trough internet, with USB keys, with optical media or with floppies. Virus, which is searching for security holes in our network, can be disabled with the use of firewall. The internet connection can mean a threat such as hackers and possible steal of information. Those threats are growing more and more nowadays. Appliances and programs, with which we can protect our company, are called firewalls. Computer masters do set up firewalls to prevent not allowed access and transfers of files to companies network or from company network. FBI and Computer Security Institute (CSI) in its article are saying that 85% of bigger companies did face illegal break ins to their computer systems

Keywords: firewall, networks, protection, security, computer communication, antivirus, company,

1 INTRODUCTION

The goal of firewall is not antivirus protection, although it is true, that indirectly firewall does lower the chance of virus infection. Virus can get into system trough different ways. Most common ways of virus transfer into companies system us with programs, transferred and installed trough internet, with USB keys, with optical media or with floppies. Virus, which is searching for security holes in our network, can be disabled with the use of firewall. FBI and Computer Security Institute (CSI) in its article are saying that 85% of bigger companies did face illegal break ins to their computer systems. Main goal of firewall is to protect private network from users and programs from internet. Firewall must be placed on contact points between networks or on the only one way point to our network (firewall must be on gateway).

2 FIREWALL

When choosing the firewall equipment, we choose the most suitable one. We should ask ourselves some questions, which can help us with our decision: How many computers will be using the firewall? Which operating system we are using? (Microsoft Windows, Macintosh or Linux). Each firewall has its advantages and disadvantages.

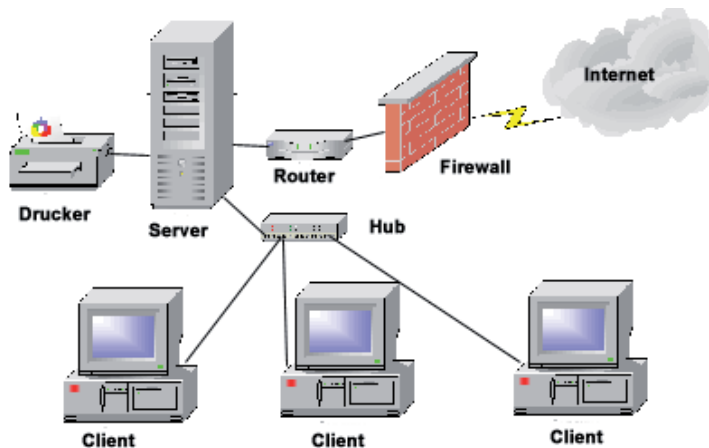
Firewall is monitoring data, which are being transferred into the internet and from it, it detects and catches those data, which are suspicious or transferred from dangerous locations. If we set up firewall suitable, hackers, who are searching for vulnerable computers, won't be able to detect our computer or network.

Firewall is protecting the network with monitoring of transfer from and into the network and that it checks every package without exceptions – what it is, where it goes and where it came from – and with that it blocks all the packages, which could be dangerous. What is dangerous is hard to define, but we do know where potential threats come from and so we can limit them. Such restrictions are set up with firewall properties, where usual rule is that all must be blocked, except what is exclusively allowed, and with that we can achieve higher rate of security.

Because of that organizations are facing troubles because the higher the security is, harder it is for work, because employees do not agree with limitations. Some employees are not aware that firewall is playing the important role of security of informational system. We also need organizational security policy and good antivirus protection for true security of informational system.

With building networks with firewall, we face more or less complex networks. Usual firewall is located on one and only gate to the network (Picture 1), so no information can be transferred thru and not being checked by firewall. We also have demilitarized zone which is separated from secured network, in this zone in which are servers, who communicate with internet, or they must be accessible from internet (such as web-server, e-mail server). Gateway is located at the frontier of network, so that on one side of gateway is our network, and on the other side is internet.

Firewall checks every single package which comes thru it. In header of package there are source and destination IP addresses, port number, protocol and some other data. Firewall compares those data with its rules, which are set in configuration properties of firewall. After checking, firewall can accept or denies the transfer of those packages. At higher rate of transfer the speed of checking is slowed down, because of need of checking of more packages. Disadvantages of firewall are also difficult configuration, non-flexibility and attack rate, such as IP spoofing and it can not look deeper into the information, which is being transferred.



Picture 1: Network (source: www.e3t.net)

3 FIREWALL FUNCTIONS

Firewall has a lot of functions:

- Main function of firewalls is monitoring the data transfer – allowing or disallowing the connections.
- Firewall in networks are placed on such places, that they can easily monitor all the transfer, they keep the record of mean transfer and its peaks and other parameters. At this point they also keep the record of blocked connections in different level of details.
- NAT (Network Address Translation) means changing of packet headers, which are transferred thru firewall, actually changing of the IP addresses. With that we overcome low number of available IPs and we hide IP addresses of private network from other internet users.
- Good firewall also allows user authentication, who want to access to our network from other locations.
- VPN (Virtual Private Network) is coded channel or group of channels, connected with unsecured public network, inside of those channels is created the virtual secured network, so called private network. If organization has two physical locations, two different networks which are both connected to the internet thru a firewall, that it is advised that we use those firewalls to establish coded connection between those two networks and with that we join two dislocated networks into one virtual network which is secured from the other internet users.
- Better firewalls can associate with Content Inspection Servers (CIS). Such server can in example be given the look on transfer thru http protocol and than server can deny the connection to prohibited content.

Properties of modern and “high skilled” firewalls are:

- Maximal access – firewall must not be the point of denial if it comes to an error.
- Upgradeability – firewall must not be or become the bottles neck because of non-upgradeability.
- High flow – clustering or combining the firewall of more same hardware parts is a solution, which 100% combines all of the above.
- Centralized management.

4 VPN (VIRTUAL PRIVATE NETWORK)

VPN (Virtual Private Network) is coded channel or group of channels, connected with unsecured public network, inside of those channels is created the virtual secured network, so called private network. If organization has two physical locations, two different networks which are both connected to the internet thru a firewall, that it is advised that we use those firewalls to establish coded connection between those two networks and with that we join two dislocated networks into one virtual network which is secured from the other internet users.

Virtual private network allows data exchange between two dislocated business units over an internet connection. This service is meant for users, who want to join their dislocated networks into one. Data transferred thru such virtual private networks are secured with strong encryption protocols.

Virtual private network allows you to connect directly, with modem or current network, to your company network from anywhere.

Some servers will check on you while accessing to the network. If your IP address is not listed as allowed addresses or is not part of group of allowed addresses your connection will be denied.

Firewall allows the limited use of Virtual Private Network. Administrator can allow the use of VPN for certain period of time. Time limiting of VPN is advisable, because we gain more control on users.

5 CREATING REPORTS

Firewall has authentication ability, which means that all users who are accessing the internet from our network are using it. All users do have access to HTTP and HTTPS protocol. Firewall allows us to block some web pages or block of some extensions of files. We use content filters in our organization. Users are informed that there are filters on music and video files. Firewall also allows automatic block of web pages with harmful code. In example if we try to access to www.example.com and that page includes some harmful code, we will get a warning that this page could not be loaded due to some reason.

Firewall also allows us to monitor intranet transfer. With use of reports we have total review and monitoring of organization, because we can see all the transfer inside it.

Usually we are more interested who is surfing, what pages are he/she browsing and how many data he/she transferred. Firewall program can get us users IP, IP and address of web page that user is currently browsing, number of port thru which the user is accessing the web page, what rule is checking the transfer, how many data is being transferred...

We can monitor users online, so we can check what they are doing. In case when we are interested what user has been doing whole last week or month, we simply choose time interval and we get all the data for selected time period for specific user, but we need to know the users IP for such action. In case we want to know who of our users has been browsing specific web page, we must choose time period and the IP of the web page in which we are interested in, and with that we get all the users who accessed that web page in selected period.

Firewall program also allows time limiting of users. In example we can set how many hours can user use internet access in one day, actually we set up a time period from when to when user can access internet or some other network.

We create the report by the needs of the organization. Usually it is created once per month, so we can see the data transfer, Main report shows us who is browsing what and how many data he/she transferred, which are the top accessed web pages and daily report of transfer (6 hours daily period in our case).

Report can also be filtered, which means, that for every user or accessed web page we can create its own report. We also see the statistics of users who tried to access prohibited contents.

6 HOW TO PROTECT OURSELVES

Always use antivirus programs with up to date definitions. It is suggested to use firewalls, which can block attackers to gain access to our computer thru unsecured doors and so they can not change settings of our hosts file.

6.1 How do we know if computer is infected?

You can't know if your computer is infected if you don't have installed some proper antivirus programs. Usually virus slows down the computers (because it's using its resources) and makes our computer to act strange. You must update your antivirus definitions constantly to prevent or to reduce virus infections.

6.2 How do we get rid of virus?

When you find out that your computer is infected, download newest antivirus definitions or updates to delete the virus from your computer. In some cases you will have to do some other actions to manually remove the virus from your system. When you need extra help you should turn to your services or supplier of your antivirus program.

6.3 How do we know that virus is gone?

Usually up to date antivirus definitions can handle viruses, if not you should contact your suppliers of antivirus application for extra help and instructions. Even if you do all above you should still be careful, because Trojan horses usually can be spread as virus or is spread with virus, but the symptoms of infection can be hidden for longer time. If you

notice that your computer or internet connection are being used active even when you are not doing anything, that try to update your definitions, because there is high possibility that you have been infected with Trojan horse.

6.4 How to protect computer against viruses?

Most important actions are:

- Install antivirus program and update it daily, or at least weekly.
- If you use Microsoft windows, than use its update function to download updates which fix the bugs in the Windows operating system among with Microsoft Internet Explorer and Microsoft Outlook Express fixes.
- Install the firewall.
- Be careful when you are visiting not know web pages, because some can download and install a virus to your computer automatically without you even noticing it.
- Do not open email attachments from not trusted senders, even be careful for attachment from to you known people. Some viruses spread themselves with automatic emails to all the addresses from users address book. If the attachment is suspicious to you, ask the sender about it, before opening it.

7 CONCLUSION

Firewall is a complex system which is wisely to be planned, build, serviced and monitored. We must have skilled personnel, which is familiar with the application with which it is working with. In case when we find an attacker who is attacking from our network (system) no firewall can help us. Antivirus programs must be monitored from main console. In case of bad administration of antivirus equipment, the antivirus program will do no use for us.

So if we have bad administration of programs such as firewalls and antivirus program, we will be sooner or later faced with big security hole in our organization.

LITERATURE AND SOURCES

Anti-Phishing Working Group. [URL: <http://www.antiphishing.org>], 18.07.2005.

Blagovno-informacijski portal. [URL: <http://www.tehnika.net>], 18.07.2005.

Dečman, L., Informacijska tehnologija v sekundarnem šolstvu, Univerza v Ljubljani,

Fakulteta za računalništvo in informatiko, Ljubljana, 2004.

Društvo za razvoj e-poslovanja in marketinga. [URL: <http://www.nasvet.si>], 18.07.2005. E3T IT-System. [URL: <http://www.e3t.net>], 18.07.2005.

Gerlič, I., Stanje in trendi uporabe računalnikov v slovenskih osnovnih in srednjih

šolah, Organizacija šte.8-9, Založba Moderna, Kranj.

Gerlič, I., Didactic aspect of distance learning, Iskanja, št. 24. str. 64, Skupnost dijaških domov, Celje, 2006.

Gradišar Miro: Uvod v informatiko. Ljubljana: Ekonomska fakulteta, 2003.

Izobraževalni portal Svarog. [URL: <http://www.svarog.org>], 18.07.2005.

Izvedbeni dokument, interno gradivo podjetja.

Microsoft Corporation. [URL: <http://www.microsoft.com>], 18.07.2005.

REAL Security. [URL: <http://www.real-sec.com>], 18.07.2005.

Spletna enciklopedija Wikipedia. [URL: <http://sl.wikipedia.org>], 18.07.2005.

Ponudnik internetnih storitev – Siol. [URL: <http://www.siol.net>], 18.07.2005.

KNOWLEDGE TRANSFER AT THE EXAMPLE OF UNIVERSITY IN OSIJEK BASED ON ENHANCEMENT OF SOCIAL RE- SPONSIBILITY *

Maja Lamza – Maronić, Professor

Jerko Glavaš, Assistant

Faculty of Economics in Osijek

Key words: knowledge transfer, Bologna process, social responsibility, University in Osijek

1. INTRODUCTION

The process of globalization and internationalization continuously increases the quantity of information. Owing to modern ICT technologies, especially the Internet and its services, time and space barriers are virtually non-existent. Information is quickly and easily accessible, which gives rise to an unprecedented problem: it is no longer information scarcity, but information surplus that is an issue now.

To be able to tackle these new problems, people have to look for and master new knowledge and skills. The traditional notion of literacy, including reading, writing, numerical and computer literacy, is becoming insufficient for a successful career and life. The acquired knowledge quickly becomes obsolete. People need to master the skill of rapid acquisition of new knowledge and displacing or unlearning the outdated knowledge.

The changes in the dynamic, complex and stochastic environment are becoming increasingly rapid, making it turbulent at times. The need for wide-ranging computer literacy implies the skill of finding the required information and knowledge, together with careful selection and evaluation. The capacity to implement knowledge gained in this way is a prerequisite for survival on global markets.

Fast changes in society, particularly in the process of European integration, make adaptation obligatory for all organizations, in both public and private sector. If an organization is unable to meet the challenges of time, or to adapt to social changes, it will inevitably stagnate.

* The paper was written in the scope of the project: Knowledge Management in the function of economic development of Eastern Croatia (No. 010-0101427-0837)

2. SCIENTIFIC INFORMATION

As a phenomenon, information is in the centre of society's attention today. It is a central concept in the theory of information, a scientific discipline which emerged in the mid-20th century. It was introduced by Claude Shannon, who views the theory of information as a special part of the probability theory and mathematical statistics. At the same time, with his study of cybernetics Norbert Wiener gives a wide natural interpretation to the theory of information, claiming that what began as a purely abstract mathematical theory turned into a general applicative theory (Wahl, Radosević).

Wiener defines information as the content that we exchange with the external world while we adapt to it and influence it by our adaptation. In the process of adaptation Wiener emphasizes interactive features and a spectrum of different time dimensions, with information as the crucial aspect initiating and moving the process.

Information is that quantity of data required for following the system in its dynamics and its relationship with other systems, as well as in connection with the changes occurring in the system's structure and function in the course of its functioning.

Although information is related to a wide range of possible activities, it has a dominant and indispensable role in the process of decision-making.

Along with the well-established and still dominant material resources, non-material resources are gaining in importance: information, space and time.

Scientific information represents a segment of scientific communication, i.e. informal (oral and written) communication processes and formal communication processes in the transfer of scientific information.

Economic development should be accompanied with an appropriate level of research work based on horizontally and vertically connected systems for gathering, processing, storage and dissemination of scientific information. In parallel with the development of science, scientific information feature as an important development potential.

In this way information has become an interdisciplinary phenomenon. Scientific information can resolve only certain issues within a particular branch of science, but there is constant striving to include the biggest possible infrastructural unit by searching through specialized databases or data banks, as well as by data mining.

This concept of scientific information is a starting point in the construction of a knowledge quality model.

3. TOWARDS A MODEL OF KNOWLEDGE QUALITY

The process of knowledge management is a planned and guided process. It consists of a number of interrelated segments situated within an intelligent information system. It allows discovering, following and creating implicit knowledge, and is thus a driving force for the spiral of knowledge.

Universities in the Republic of Croatia are currently going through the process of adapting the higher education system to the Bologna Declaration principles, thus participating in the creation of a unique "European Area for Higher Education".

The University in Osijek is following the process of adapting the higher education system to the Bologna Declaration principles also through the regional development model, as the execution of the Bologna process has given it the role of mentoring initiatives.

Interactive approach in the dialogue of the University and its social and political environment is taken in an effort to develop a sustainable regional research programme, as a contribution to the knowledge quality model.

The knowledge quality model in the Bologna process implementation would be conceived and developed at the Josip Juraj Strossmayer University in Osijek.

Looking back at the development of the University in Osijek (established in 1975) it should be noted that this is the only Croatian university which sustained heavy damages during the Homeland War in 1990s.

It currently has more than 15,000 students, and includes fourteen faculties and departments in the fields of natural sciences, technical sciences, biomedicine and health care, biotechnical sciences, social sciences and humanities. There is a long-standing and fruitful cooperation with a number of international partners in Augsburg, Giessen-Friedberg, Pforzheim, Vienna, Gdansk, Pecs and Mostar, which has resulted in regular annual exchange of teachers and students (mobility), cooperation on joint projects, annual conferences, symposiums and scientific colloquiums.

Some features of the current Bologna process, e.g. flexible study programmes, individual choices in education for all students, internationalization in teaching, joining the European research and education area, and responsiveness to the demands of the economy, have already been anticipated and realized to a greater or lesser degree at the Faculty of Economics in Osijek.

Faculty of Economics in Osijek is one of the oldest constituents of the Josip Juraj Strossmayer University in Osijek. At this point it has some 5,000 students and it will serve as a proving ground for knowledge quality modelling within Bologna process in the economic science and practice.

4. KNOWLEDGE QUALITY MODEL IN THE BOLOGNA PROCESS IMPLEMENTATION

The concept of regional development model at universities is today very carefully considered. According to the House of Representatives study from the year 2000, two-way reversible processes are noticeable at contemporary universities. On one hand, universities are suppliers of intellectual services. On the other hand, they can be viewed as buyers of intellectual services on the labour market.

Universities are connected with the existing infrastructure and encourage its further development. These are institutions that can recognize, design and fully develop leadership

in a community.

At the micro level, as well as at the mezzo and macro levels, they are deeply interwoven with the traditions of the cultural environment in which they are active.

This thesis is confirmed by the University in Osijek, which has been a crucial factor in the development of eastern Croatia. The University in Osijek builds up and disseminates the knowledge important for the economic and social growth at the regional, national and global level.

The transition of universities in the Republic of Croatia aims to transform them into integrated, competent, research-oriented and efficient institutions with accredited programmes and increased quality.

Quality assurance is one of the focal points in the Bologna process implementation. Throughout Europe the need is emphasized to conduct a coherent policy based on the principle that institutional autonomy gives rise to and demands accountability. Furthermore, it is generally accepted that universities have to take on responsibility for the process of developing an internal quality culture.

The expected research results at the University in Osijek should facilitate the consistent implementation of the Bologna process. In addition, they should be the generator of university activities leading to regional development.

The model is aimed to help in better positioning of the University (and similar institutions of higher education) within local and regional business community.

The structure of knowledge quality model is conceived in the following steps: analysis of the current level of knowledge, defining of new dynamic goals in order to increase the current level of knowledge, transfer, dissemination and exchange of knowledge, possibility of using the acquired knowledge (the ratio of declarative and “silent” knowledge), measuring and evaluation of knowledge.

The research protocol is organized in structural forms and included in the model construction through the following phases:

- Defining the research subject and its structure,
- Defining the organizational structure of individual parts of the model,
- Relationship between the model system and subsystem,
- Relationship between the research subject and its environment, primarily through organizational structure,
- Relationship between actual and potential human resources in the research subject,
- Compatibility with cognate models, particularly in the application of the Bologna process with partner subjects
- Transparency of the research subject to cognate models, particularly those applying the Bologna process.

The model will use appropriate research methods structured in several research phases: in the initial phase the usual methods of analysis, synthesis, comparison and analogy will be applied.

In order to examine the past development of knowledge management we shall use

the methods of historical and comparative analysis and synthesis, as well as appropriate mathematical-statistical methods and software packages.

To diagnose accurately the current situation we shall use the method of surveys and interviews (as primary data).

The first phase of the research is focused on internal research methods based on secondary information sources (desk research).

The research process will simultaneously use external information obtained through surveys and interviews in a transparent way. These surveys will be conducted both in broader and narrower environment.

External methods based on primary information will be used in the second phase of the research of knowledge quality model in the Bologna process application.

Individual segments of knowledge quality model in the Bologna process application are directed to the following areas:

- Secondary schools in the region (grammar schools, vocational schools), which usually produce future students of the Josip Juraj Strossmayer University in Osijek, especially at the Faculty of Economics in Osijek.
- Based on previous research, the broader environment covers most of the eastern Croatia, a part of Varaždin County, a part of Posavina Kanton in Bosnia and Herzegovina, and to a lesser degree the county of Baranya in our northern neighbour Hungary.
- Undergraduate university study programmes at the University in Osijek.
- Graduate university study programmes at the University in Osijek.
- Study programmes at polytechnics – Požega Polytechnic, Vukovar Polytechnic, and Slavonski Brod Polytechnic which is in the process of foundation.
- The need for polycentric development of the University in Osijek is emphasized.
- There are possibilities for good positioning in the labour market after completing an undergraduate university study programme (location).
- Possibilities for good positioning in the labour market after completing a graduate university study programme (location).
- Postgraduate university study programmes.
- Doctoral studies.
- Life-long learning and possibilities for better positioning in the labour market.

The evaluation of results obtained through this research will contribute to the knowledge quality model in the Bologna process application at the University in Osijek. The model can become an integral part of knowledge management system within the development strategy of Croatia in its effort to join the EU and European economic area.

In accordance with the research at the University in Osijek, the processes of knowledge acquisition and application should be monitored at other levels as well, primarily during classes and, even more importantly, in practice after the formal education has been completed.

On completion of their studies, every graduate should continue to learn and acquire knowledge, skills and experience in order to transfer them into concrete decisions, processes or products.

5. CASE STUDY – FACULTY OF ECONOMICS IN OSIJEK

Young people, especially students, are at the heart of the strategy launched by the European Council in Lisbon in March 2000. According to this strategy, the basic objective of achieving a more competent and dynamic knowledge-based economy, capable of sustainable development and creating more and better jobs as well as better social cohesion, will depend primarily on the following:

- The level of students' knowledge, their attitude towards learning and motivation level;
- How far are universities, i.e. faculties and departments, capable of "production", transmission and transfer of knowledge.

The survey conducted at the Faculty of Economics in Osijek, within the course "Management Information Systems", in the academic year 2006/2007 has showed some improvements in the teaching process itself and in the knowledge transfer through lectures, exercises and seminars.

The sample consisted of 55 third year students in the programme Marketing Management.

The respondents were supposed to answer six basic questions regarding the course "Management Information Systems" and regularity of class attendance.

At the question regarding class attendance for lectures the students answered that they mostly attended lectures although there was a number of those who did not attend regularly, or came only sporadically.

This research segment is significant because lectures provide certain theoretical knowledge and serve as a foundation for further knowledge transfer into the segment of exercises and seminars.

Table 1. Question 1. How many lectures have you attended so far?

Answer	Number of students
Most of them	43
About 50 %	8
I rarely attended the lectures	4

Source: Survey "Knowledge Transfer", Faculty of Economics in Osijek, November 2006

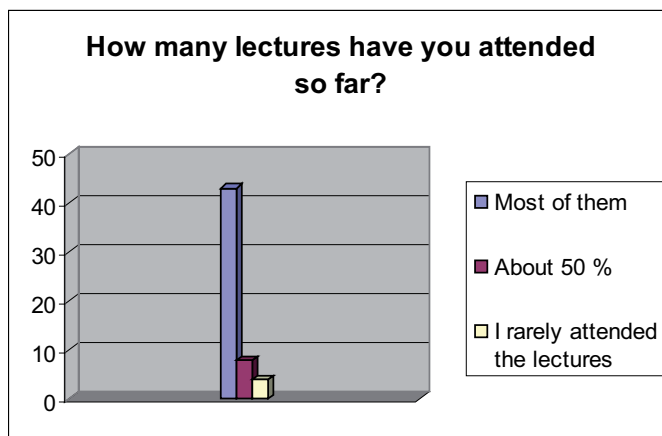


Figure 1. Question 1. How many lectures have you attended so far?

At the question on their chief motive for attending lectures the students mostly said that the motive was to prepare for the exam in this course; however, quite a number of students stated that they are attending lectures out of interest, i.e. because they find the topics interesting. They are likely to transfer the knowledge gained through the teaching segment, i.e. lectures into the application segment, i.e. exercises and in the near future their work.

Work effectiveness of such employees is high in both quantitative and qualitative terms, thus creating possibilities for personal advancement, but also for improvement of the overall society. If such an employee is surrounded by similar people, who all possess high quality knowledge, they can all make great steps forward through cooperation but also through competition among themselves. The society becomes wealthier in economic terms, and through innovations, research and different projects.

Table 2. Question 2. My chief motive for attending lectures?

Answer	Number of students
Because it is compulsory	1
To prepare for the exam	39
Out of interest / because I am interested	15

Source: Survey "Knowledge Transfer", Faculty of Economics in Osijek, November 2006

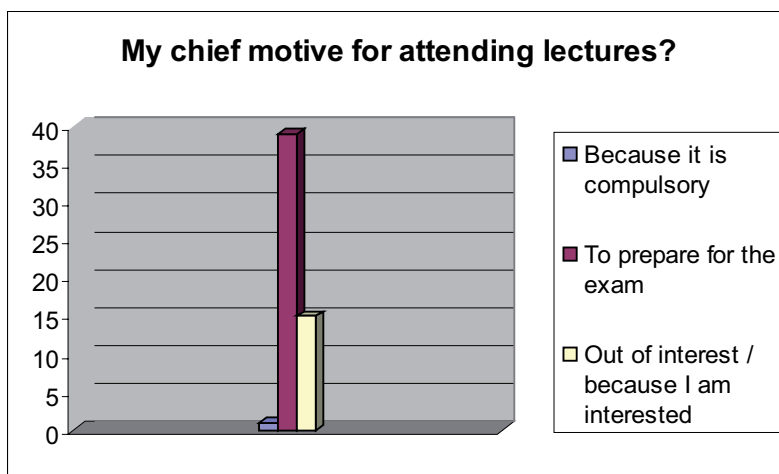


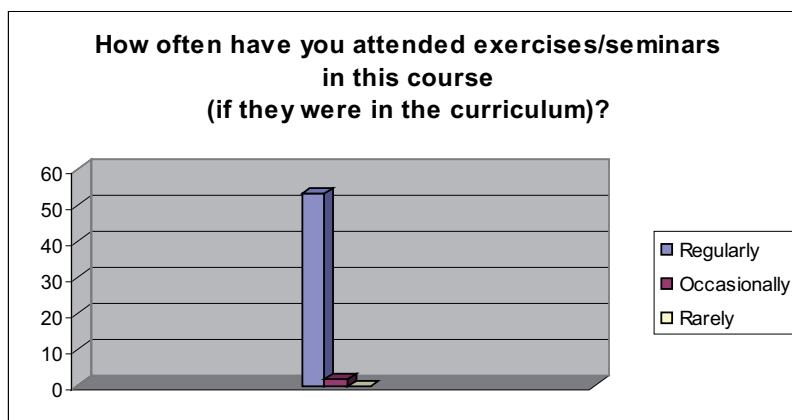
Figure 2. Question 2. My chief motive for attending lectures?

Out of the 55 students surveyed, 53 students participated in the exercises for the course “Management Information Systems”, which is very significant as these exercises are of applicative character and represent a transition between educational and applicative period of acquiring and implementing knowledge.

Table 3. Question 3. How often have you attended exercises/seminars in this course (if they were in the curriculum)?

Answer	Number of students
Regularly	53
Occasionally	2
Rarely	0

Source: Survey “Knowledge Transfer”, Faculty of Economics in Osijek, November 2006



*Figure 3. How often have you attended exercises/seminars in this course
(if they were in the curriculum)?*

Questions 4 and 5 are equally important since they indicate clearly the continuity in gaining theoretical knowledge and its application during exercises and seminars within the course “Management Information Systems”.

In the course of his/her growth and development, a person learns almost every day. If the acquired knowledge is of good quality, it can be equally well implemented in practice.

Table 4. Question 4. How often were lectures in this course cancelled without prior notification?

Answer	Number of students
Never	55
Once or twice	0
More than twice	0

Source: Survey “Knowledge Transfer”, Faculty of Economics in Osijek, November 2006

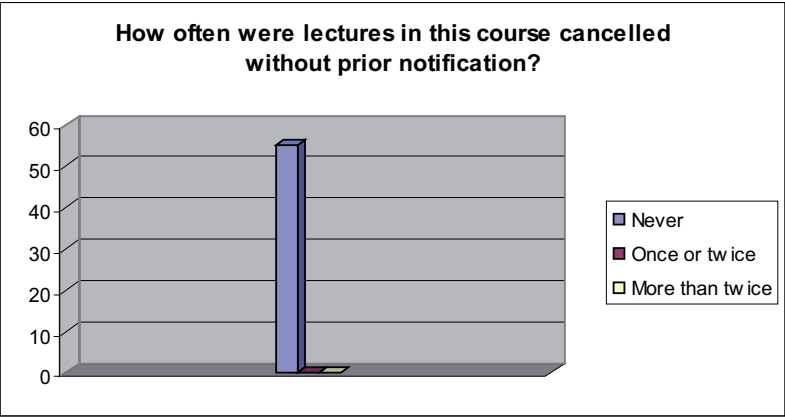


Figure 4. How often were lectures in this course cancelled without prior notification?

Table 5. Question 5. How often were exercises/seminars in this course cancelled without prior notification?

Answer	Number of students
Never	55
Once or twice	0
More than twice	0

Source: Survey “Knowledge Transfer”, Faculty of Economics in Osijek, November 2006

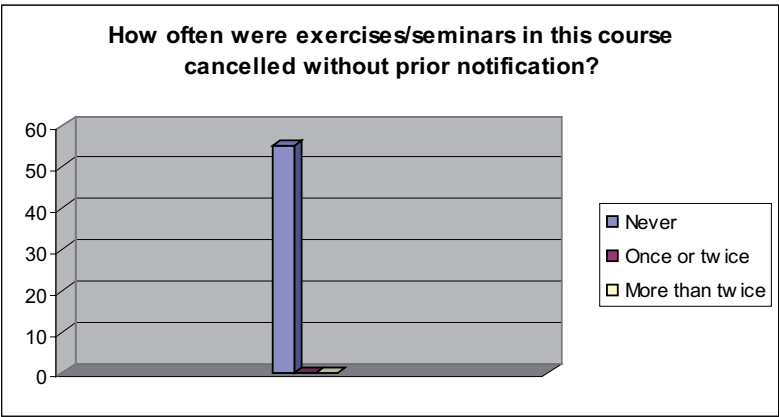


Figure 5. How often were exercises/seminars in this course cancelled without prior notification?

The final phase of acquiring knowledge in a particular cycle should be the predefined result (exam passed, project completed, positive business result, etc).

To the survey question regarding the exam in the course all the students answered that they have not passed the exam, or that they have not taken it yet. The reason for such answers is that at the time of the survey full-time students had not completed the stated course in the academic year 2006/2007 and had thus not fulfilled the requirements for taking the exam.

Table 6. Question 6. Have you passed the exam in this course?

Answer	Number of students
Yes	0
No	24
I haven't taken the exam yet	31

Source: Survey "Knowledge Transfer", Faculty of Economics in Osijek, November 2006

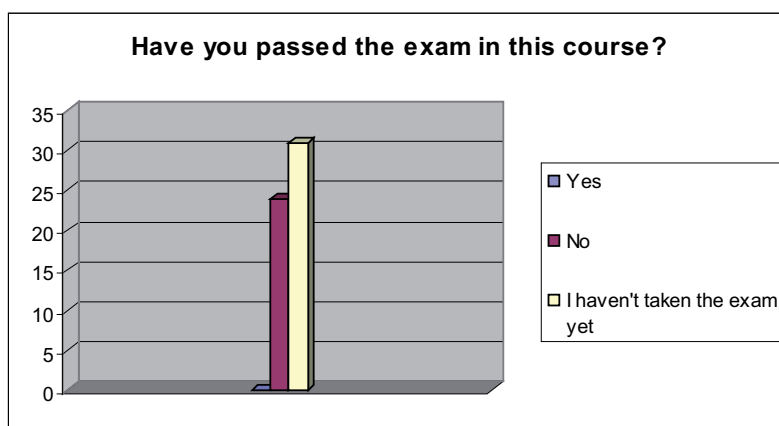


Figure 6. Have you passed the exam in this course?

6. INSTEAD OF CONCLUSION

The Bologna process, continuous improvements of study programmes, introduction of theoretical applicative content into teaching at higher education level have all contributed to providing the knowledge which is crucial for long-term sustainable growth and development of the Republic of Croatia.

These are actually the premises that the course “Management Information Systems” is based on. In this course we have confirmed the hypothesis that students acquire certain knowledge during lectures and exercises, and can then transfer this knowledge and apply it on concrete problems and cases from the business practice. New methods in teaching, exercises, seminars, improved contact with students, involving them in research projects at the Faculty of Economics in Osijek and Josip Juraj Strossmayer University in Osijek, indicate that the acquired theoretical knowledge can very well be transferred to particular problems encountered daily in the business world.

Both Josip Juraj Strossmayer University in Osijek, and the Faculty of Economics as its member, create and transmit knowledge which is of highest importance for economic and social welfare at the regional, national and global level.

BIBLIOGRAPHY

Barlow, C: (2000), **The Knowledge Creating Cycle**, The CO-Creativity Institute, Glen Ellyn, Illinois, USA

Nonaka, I.; Takeuchi, H.: (1995), **The Knowledge Creating Company**, Oxford University Press, New York

Panian, Z.(2002): **Sponzorirana virtuelna učilišta i cjeloživotno učenje**, CANet, Edupoint, year II, No. 7.

Baban, Lj. (2000): Primjena metodologije stručnog i znanstvenog istraživanja, Ekonomski fakultet u Osijeku, Osijek

Bates, A. W., Poole, G. (2003): Effective Teaching with Technology in Higher Education Foundations for Success, University of British Columbia, Vancouver

Hammersley, M., (2002): **Educational Research, Policymaking and Practice**, London: Paul Chapman.

Ministarstvo financija Republike Hrvatske (2006) **Proračun 2007. godine: Za ravnomjerniji razvoj Hrvatske**, pp. 27-31.<http://www.mfin.hr/> [Accessed 12.12.2006]

Knowledge Transfer: Looking Beyond Health (2000) **Conference report**, Toronto, pp.3-10 http://www.chsrf.ca/knowledge_transfer/pdf/ktransfer_e.pdf [Accessed 09.10.2006]

REDESIGN OF ORGANIZATION OF INFORMATION SYSTEMS

Asim Tenić, PhD

Edin Osmanbegović, MBA

Faculty of Economics, Tuzla

INTRODUCTION

When building a new information system (IS) it includes: analyzing companies problems with existing IS, rating human needs for information, choosing a proper technology as well as redesign business processes and tasks. New IS symbolized process of planed organizational changes. However, building IS especially those of higher level symbolize great challenges.

The development of IS has major risks and uncertainties which create difficulties for systems to achieve their goals:

- Difficulties with determining informational demands for final users and organization in general
- Factors like time and cost are difficult to analyze in development of IS, especially in large projects
- Level of difficulty in managing organizational changes together with new system

Standards and controls which are too restrictive not only can run into the resistance of users, but they also can stop innovation of final users. If the controls are too weak, company can run into serious problems with integration and merging of data.

1. SYSTEMS AS PLANED ORGANIZATIONAL CHANGE

The introduction of new IS includes a lot more than mere new hardware and software. It includes changes in jobs, skills, management and organization. In social-technical philosophy it is not possible to install new technology without considering people who must work with it. When designing an IS we redesign organization. Important thing to know when building new IS is that this process is one sort of planed organizational change. Builders of this system must know the system will affect on organization in general, focusing especially on organizational conflicts and changes of decision making places. Builders must have in mind how will the nature of team work change in frame of new system. Systems could be technically successful but also organizational failure because of the failure in social and political process of system creation.

In order to develop effective plan of IS the organization must have clear understanding and comprehending of short-term and long-term demands for information. Two methodologies for determining basic demands for information as a whole are analyses of

activities and factors of critical success.

Analyses of organization (they are also called planning of business systems) contain in fact the demands of company for information could only be understood by observing the whole organization in terms of organizational units, functions, processes and IS. The main method used in analyzing of organization is selecting large sample of managers and ask them how the use information, where do they get information, what is their environment, what are their goals, how do they make decisions and what are their needs for information. Elements of data are organized in logical groups - groups of informational elements which support part of organizational processes referring to the same. Picture 1 is the final display of activities analysis performed by social security administration, as a part of larger effort of secondary system development. It implies which information are needed to support selected process, which processes create data and who is using them.

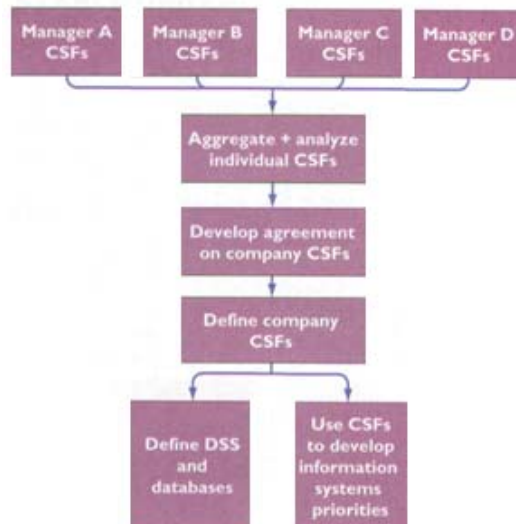


Figure 1. Using CSFs to develop systems

Weakness of organizational analysis is the fact that it produces a massive quantity of data (information) which are expensive to collect and difficult to analyze. Most interviews are done with older or middle-aged managers and very few information are collected from trained workers and section managers. Strategic analyzes or crucial factors of success is an approach which starts with the fact that organizational demands for information are determined with small number of crucial success factors (CSFs) managers. If these goals can be achieved, success of company or organization is secured. The main method used in this analysis (CSFs) is personal interview – three or four – with determined number of top managers in order to identify their goals and effects of analysis. These personal analysis are summarized in order to get the picture of a whole company. The advantage of this

analysis is creation of fewer numbers of files than organizational analysis (table 1).

Table 1. Critical Success Factors and organizational Goals

Example	Goals	CSF
Profit concern	Earnings/share Return on investment Market share New product	Automotive industry Styling Quality dealer system Cost control Energy standards
Nonprofit	Excellent healthcare Meeting government regulations Future health needs	Regional integration with other hospitals Improved monitoring of regulations Efficient use of resources

Only the top managers are interviewed, and the questions are focused on small number of main success factors, and not on wide research of needed or used information. This method allows change of environment which organizations and managers have to face. This method requires that manager inspect his environment and consider how do their analyses shape their needs for information. This method is especially useful for top management, as well as development of DSS-a and ESS-a. This method focuses organization’s attention on how one should manage information. Main disadvantage of this method is that the process of collecting and data analysis is submitted to changes as well as that there is no definite way to summarize individual success factors in one clear model of company. Second, there is often confusion among those interviewed and those doing the interviewing about individual and organizational crucial success factors. They do not have to be the same. What can be crucial for a manager can be irrelevant for an organization. This method is aimed toward top management because they are only ones interviewed.

New IS can be a powerful instrument for organizational change, allowing the organization to redesign its structure, background, strengthen relations, advances, redesign products and services. Information technology (IT) could promote various levels of organizational changes, ranking from complete changes to those difficult to achieve. Picture 2 shows four types of structural organizational changes which are enabled with IT: mechanization, rationalization, reengineering and prototype of changes. Every type carries different advantages and risks. Most common type of IT – which enables organizational changes is mechanization. First application of IT includes assistance of employees in performing their tasks effectively and efficiently. Registration of checks and determining of employee list, enabling prompt access to the customer deposit for the bankers and development of network reservation of plane tickets across the whole country for agents are examples of early mechanization.

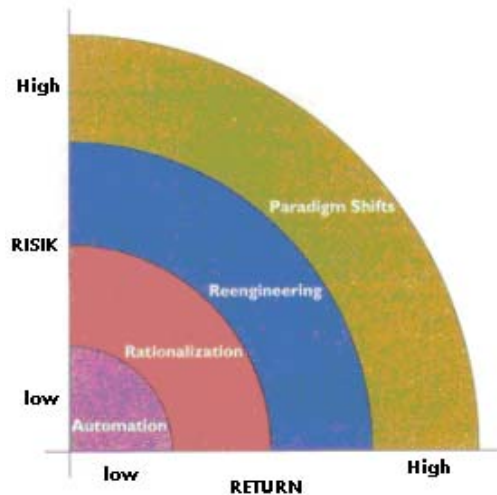


Figure 2. Organizational change carries risks and rewards

The other form of organizational change – the one that follows the early mechanization – is rationalization of procedures. Mechanization soon discovers new parts in production and makes existing structures and procedures obsolete. Rationalization of procedures is in fact economization of standard operational procedures, by eliminating obvious flaws, so that the mechanization can make operational procedures even more efficient. The most common type of IT – which enables organizational changes is mechanization. First application of IT includes assistance of employees in performing their tasks effectively and efficiently. Registration of checks and determining of employee list, enabling prompt access to the customer deposit for the bankers and development of network reservation of plane tickets across the whole country for agents are examples of early mechanization.

Business reengineering reorganizes various flaws, combining steps in order to reduce paperwork which repeat themselves (sometimes new design completely removes some tasks). For example: Ford has introduced engineering of their accounting process, by building a system where buying department inputs the order into the online base, which can be checked by reception department when the ordered item arrives. If arrived items match with those in the order, system automatically produces payment check and sends it to the seller. There is no need for the seller to send a check. After the reengineering Ford has been able to reduce number of employees in accounting department by 75% and to produce more accurate financial information.

New IS can influence on entire organizations design by transformation of ways in which the organization does business or even the nature of business itself. This radical style of business changes is called changes prototype. This form includes consideration of business nature and the nature of the organization itself. This form as well as reengineering often do not succeed, because it is very difficult to manage such large organizational changes. Why, then, do so many corporations perform such radical changes? Because the

advantages are as large.

2. BUSINESS PROCESS REENGINEERING AND TOTAL QUALITY OF MANAGEMET (TQM)

Business process reengineering is the case when the organizations radically redesign their business processes before applying of computerization, could profit from investments in IT. Mortgage industry is leading example in USA how large corporations implemented business process reengineering. Applicative process for putting your home under mortgage usually takes 6-8 weeks and costs around 3000\$. The goal of many banks was to reduce costs by 1000\$, as well as reduce time needed to gain the credit by one week. Leading banks like Bank Boston, Countrywide Funding Corporation and Bank One Corporation have redesigned the applicative process. That process is divided into three levels: creating; servicing and second level marketing.

In order to reduce paperwork in applicative process of giving the mortgage credit, the banks have turned to the software of documentation management. By using this software for filing and processing of documentation electronically, organizations can redesign their progressive work so that the documentation can be worked on simultaneously and transferred from one location to another. This process of reducing business procedures is called management of progressive work. This software robotize the processes like transfer of documentation on various locations, securing approvals, planning and generating reports. Two or more people can work simultaneously on the same document. If the goal of redesign is to reduce time and cost of creation of new product, organizations have to calculate time and costs in prompt, of unchanged process. Conventional method of system design bases itself on demands for information of business process and than determines how can they be supported by IT. However, IT could create new options for various processes and in that way replace existing systems which have limited the organization. Table 2 shows an example of innovations which surpasses these limitations. IT should be allowed to influence the design of process from the very beginning.

Table 2. New Process Design Options With Information Technology

Assumption	Technology	Options	Examples
Field personnel need offices to receive, store, and transmit information	Wireless communications	People can send receive information from wherever they are	Swedish National Board of Health and Welfare Glaxo Smith Kline
Information can appear only in one place at one time	Shared databases	People can collaborate on the same project from scattered locations; information can be used simultaneously wherever it is needed	Banc one
People are needed to ascertain where things are located	Automatic identifications and tracking technology	Things can tell people where they are	United Parcel Service
Business need reserve inventory to prevent stockouts	Networks, extranets, and EDI	Just-in-time delivery and stockless supply	Baxter International Wal-Mart

For purpose of increasing of organizational efficiency, companies change their business processes in order to improve quality of products, services and operations, by using the concept **total quality of management quality**, in order to achieve the responsibility of all people and functions in a whole organization. TQM bases on the fact that the reaching of control quality is in itself. In order to increase efficiency of organization, companies change their business processes to improve quality of their products, services and operations. TQM keeps its achievement of quality control of responsibility is the end in itself. TQM is considered to contribute more than business process reengineering (BPR), because it is mainly focused on creating of constant improvements, rather than on some dramatically large changes. Sometimes the processes must be completely committed to reengineering in order to achieve the selected level of quality. IS could help the company to achieve its goals considering quality by helping them to: *modify products or processes, reach system evaluation standards, satisfy the customer demands, reduce cycle time and increase in quality and precision of design and production.*

Many companies are more efficient in reaching a level of quality by setting the strict standards for products, services and other activities, and then measuring achievements with that standards. This procedure is called **system evaluation**. Companies can use the standards of external industries, standards set by some other company, internally developed high standards or other combination of these three options. L.L. Bean, Inc,

Maine, the company that practices selling by catalogue, has used system evaluation in order to achieve order accuracy of 99,9%. The old system of order gathering could not follow the variety of items that were to be delivered. After studying some German and Scandinavian companies, L.L. Bean has carefully redesigned the process of order filling and IS, so that the orders could be submitted as soon as they were received and delivered in 24 hours.

To use the customers demand as a guideline for improvement of products and services, putting services in main priority, will improve the product itself. Delta Airlines has decided to focus more on the customers by installing systems for customer caring in the airport entrance. For every flight, seating order, reservations, and information are connected in the central database. Personal can monitor which passengers are on the plane no matter where they signed in and use this information to help the passengers to reach their seats faster even if the cancellation provoke them to miss bonded flights.

Cycle time reduction from the beginning of process to it's end, usually results in reducing number of steps. Shorter cycle usually means that the mistakes are caught more often in earlier stage of production, often even before the process is completed, eliminating many of the hidden costs.

Computer aided design software has made dramatic **improvements in quality** in wide business specter from production of planes to the production of razors. Alan R. Burns, CEO of Airboss Company in Australia used CAD to design a new model of tires made of series of changeable segments so that if one segment is damaged only that segment would have to be changed and not the whole tire.

3. SHORT REVIEW OF THE SYSTEM DEVELOPMENT

The activities in production of IS solutions of organizational problem are named the system development. These activities include analyzing of the system, system design, programming, testing, production and maintenance. Picture 3. shows the process of the system development.

System analyses are analysis of the problems which the organization is going to try to solve with IS. It includes defining of the problems, identification of its samples, specifications of the solutions and identification of requests for information which have to be solved by the solution of the system. The analyst creates the map of the road of already existed organization and the system, by the identifying of owners and users of data in the organization. These users have the direct interest of this information on which the system has influence. From these organizational analyses, systematic analyst deals with problems of existed system. By the analyzing of the documents, procedures, observing operational systems; interviewing the key users of the system, analyst can identify areas of the system and find solutions for those ones. The often solution of the requests for building the new

IS or improving of already existed.

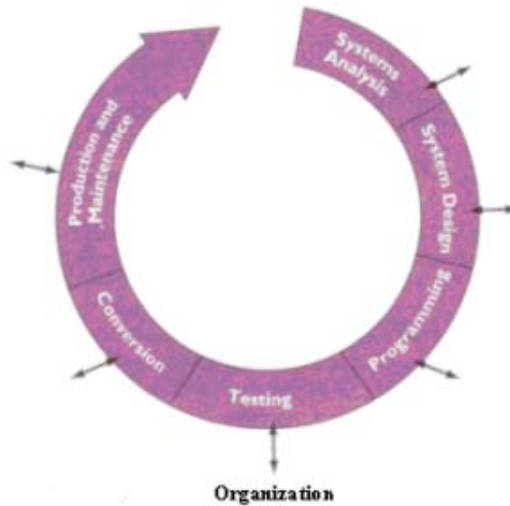


Figure 3. Systems development process

Feasibility study will determine is the suggestion system good investment, is the technology which is needed for the system available and can the experts of the company for IS manage with the same one, and can the organization be faced with changes which are represented by the system.

On the same top **the informational requests** of the new system include identification of the type of needs for information, where, when and how. Analyses of requests carefully define goals of the new or the modifying system and they give detailed description of the functions which new system has to do. Wrong analyses of the requests are the main reason of the system's mistake and high expenses of the system development. The system which is designed on the base of the wrong collection of the requests will have to be or dismissed because of bad results or in high measures be changed. The system analyses describe what the system must to do in order to achieve requests for the information, and the system design shows how the system will achieve this goal. Design of the IS is the whole plan or the model for that system. Table 3. shows types of the specifications which could come out during the design of the system. Like houses and buildings, the ISEs can have of several possible designs.

Users must have **successful control of the design process** how they could insure that the system deals with all their business priorities and needs for the information, and not only with the technical staff. By the work on the design understanding of users and theirs accepting of the system increases, decreasing the problems which are caused by the transfers, and not knowing of the functions and the procedures of the new system. Insufficient involving of the users in the trying of the design is the main cause of the

system's unsuccessfulness. Some types of the system requests bigger involving of the users in the design then the others. ***The finishing of the system's development process*** are the remained steps in the process of the system development and they are related with the translations of the specification of the solution which are determined during the analysis of the system and the design in the complete operative IS. These final steps include programming, testing, transformations, productions and maintenance. In ***the phase of the programming*** specifications of the system which are prepared during the phase of the design, are translating in the code of the software program. On the base of the detailed design of the documents and the files, reports and the other details of the design, specifications are preparing for the each program in the system. The organizations by themselves write or buy software packages for that purpose.

Table 3. Design Specifications

Output - Medium - Content - Timing	Controls - Input controls (characters, limit, reasonableness) - Processing controls (consistency, record counts) - Output controls (totals, samples of output) - Procedural controls (passwords, special forms)
Input - Origins - Flow - Dana entry	Security - Access controls - Catastrophe plans - Audit trails
User interface - Simplicity - Efficiency - Logic - Feedback - Errors	Documentation - Operations documentations - Systems documents - User documentation
Database design - Logical data relations - Volume and speed requirements - File organization and design	Conversion - Transfer files - Initiate new procedures - Select testing method - Cut over to new system
Processing - Computations - Program modules - Required reports - Timing of outputs	Training - Select training techniques - Develop training moduls - Identify training facilities
Manuel procedures - What activities - Who performs them - when - How - Where	Organizational changes - Task redesign - Job design - Process design - Office and organization structure design - Reporting relationships

Testing responds to the question, “will the system provide the wished results under the known circumstances?” In some cases, parts of the system must be redesigned. Risks of the avoiding or too fast passing of this step are huge. **Testing** of the IS can be dealt on three activities: *the testing of the unit*, *the testing of the system* and *the testing of the accepting*. **The testing of the unit**, or the testing of the program, includes the testing of every program separated in the system. The testing is actually done because of the locating of the mistakes in programs, focusing on finding every possible ways that program fails. And when it is discovered, problems can be fixed. **The testing of the system** tries to determine if the models will function together like it is planned and are there disagreements between ways on which the system works and the ways on which it was believed that it will work. Between areas which are studying are the time of the performance, the capacity for the saving of the data, possibilities of the recover and retesting and the manual procedures. **The testing of the accepting** makes it possible the final certificate that the system is ready to be used in the making of the production. The system tests are graded by the users and checked by the management. When all sides are satisfied and when the new system fulfills their standards, the system is formally accepted for the installation. The team of the development of the system works with users how they could come to the systematic plan of the test. **The plan of the test** includes all preparing of the text described before.

The conversion is the process of the changing from the old to the new system, and there are four main strategies of the conversion which are used: *the parallel strategy*, *the direct strategy*, *the strategy of the pilot studying*, and *the strategy of phased approach*. In **the parallel strategy** the safest approach is in the conversion, because in case some mistake or in the break of the process, the old system still can be used as a background. This approach is expensive, and the added sources must be searched and the staff also in order to lead he extra system. In **the strategy of the direct** replace the old system is changing in complete by the new one on the certain day. This is much risked approach which potentially can be more expensive than the parallel activities if the serious problems are discovered with the new system, because there is no other system that supports that system. The strategy **of the pilot studying** presents the new system only in specific area of the organization, like one department or the operative unit. When the pilot version is finished and when it works without problems, it installs in other part of the organization, or in the same time or in the phases. The strategy **of the phased approach** represents the new system in phases, or by the functions or by the organizational units. If the system is represented by the functions, the system of paying can begin with workers who are paid for each working hour, and for six months the employees who are paid for each month are added. If the system is represented by the organizational units, the management could be changed the first one, followed by the operated units which are paid out four months later. For the transfer from the old system to the new one the involving of the final users is requested. **The documentation** which shows how the system works and from the technical and from the final user’s point of view, is analyzed during the time of conversion for using in training

and the daily operations. The lack of the proper training and the documentation leads to the failure of the system.

After the new system is installed and the conversion is finished the system is prepared for the *production*. During this phase the system is going to be followed by the users and technical experts in order to establish how the system fulfilled the goals and to decide if the revisions and modifications are needed. Changes in hardware, the software, the documentation, or the procedures in production system in order to that mistakes are corrected, the new requests are fulfilled, or the efficiency of the processing are improved are the characteristics of the maintenance. Approximately 20% of time is related with correcting of the problems, of the urgent production; the other 20% is related to the changes in data, reports, hardware, or software of the system, 60% of the complete work of the maintenance is related with making of improvement of work of the users, improvement of the documentation, and the components of the system of the recording because of the better efficiency of the process. The quantity of the work in the third category of the possible problems during the maintenance could be decreased in the high measure through the better analyzing of the system and the exercise of the design. Table 4. summarize the activities of the development of the system.

Table 4. System Development

Core Activity		Description
Systems analysis		Identify problem(s)
		Specify solution
		Establish information requirements
Systems design		Create design specifications
Programming		Translate design specification into program code
Testing		Unit test
		Systems test
		Acceptance test
Conversion		Plan conversion
		Prepare documentation
		Train users and technical staff
Production and maintenance		Operate the systems
		Evaluate the systems
		Modify the systems

4. ALTERNATIVE APPROACHES OF THE SYSTEM DEVELOPMENT

The systems differ in their size and their technological complexity, and in the conditions of their organizational problems which have to be solved. Since there are different types of system, the different methods for the development of system have been developed. This part describes these alternative methods: *the life cycle of the system*, *the prototype production*, *application software packages*, *the development of the final user*, and *providing the assets and services*. **The life cycle of the system** emphasizes the formal specifications and documentations, so many documents are collected during the very project of the system. After the installation and production of the system, actually in use, the users and the technical experts will get through the formal **post-implementation check**, which determines if the new system has achieved the goals and is there any need for the additional revisions and modifications. **The steps in the prototype production** are shown in the Figure 4. this shows the model of four steps of the production prototype process.

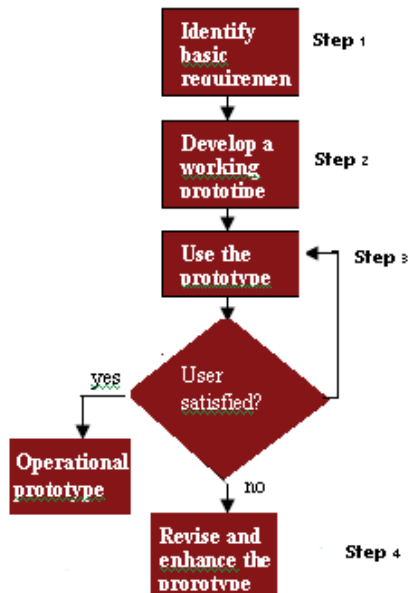


Figure 4. The prototyping process

This process (figure 4) can be divided in four steps. Since this system can be developed fast and without many costs, the builders of the system can carry out several changes, repeating the steps 3 and 4, to improve the prototype until the final version is being finished.

The prototype production is more useful when there is a certain uncertainty regarding

the request or the design solution. It is especially useful in the design of the part of the system, such as on-line display, or web pages. Since the prototype production encourages the involving of final users through the entire process of the system development, it can be very easily produced the system which will fulfill the demands of the users. Even though, the fast production of the prototype can predict and override the important steps in the system development. If the finished prototype works really well, the management may not perceive the need for the reprogramming, redesign or the entire documentation and testing for building of the perfect production system. The systems built in this way will not maybe accept the large quantity of data or large amount of the users in the production environment.

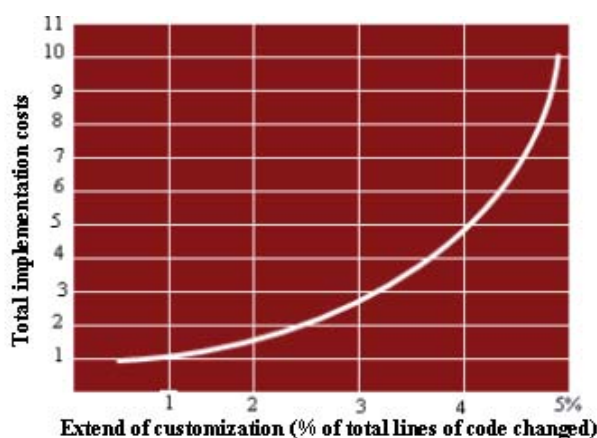


Figure 5. The effects of customizing a software package on total implementation costs

With the increasing of modification of the software package, there is also the increasing of costs of the package implementation. The planned savings can fail due to the illogical and unreal changes.

IS can be built by using the software from *the software application packages*. There are many applications which are common to all business organizations – payment, receiving the invoice, conduction of the main-book or the detailed control. For such universal functions with the standard procedures, the generalized system will fulfill the demands of many organizations. If the software package can fulfill the majority of the organizational requests, the company doesn't have to create its own software, it can save the time and the money using the redesigned software programs from the package. The promoters of the package ensure the majority of the maintenance and the system support, including the improvement because of the adjustment of the system with the new technical and business achievements. If the organization has the specific requests, many packages include the modification efficacy. **Modification** enables to the software package to fulfill the specific organizational requests without the destruction of the software package integrity. If there is a need for some bigger modifications, the additional programming

and the very modification can be such expensive so it takes a lot of time and eliminates many advantages of the software package. The first price can vary because of these hidden implementation costs.

The selection of the software package: When the system is built by the help of the application software package, the system analyses will include the efforts of the package evaluations. The most important evaluations are the functions enabled by the package, flexibility, accessibility, hardware and software attainments, the requests from the base, installation and the efforts of the maintenance, documentation, the quality of the promoters and the costs. The process of the package evaluation is often based on ***the request for giving the replies*** (REP), which represents the detailed list of question given to the promoters of the software package. When the software package is selected, the organization does not have the control over the system design process anymore. Instead of the creation of the specific system design directly toward the requests of users, the efforts of design will be directed to the attempt of the influence on the requests of the users to adjust and accept the characteristics of the package. If the requests of the organization are not in the accordance of how the package works, the package cannot be modified, the organization will have to adopt the package and change its and its own procedures. The new company which is newly established can adopt the business processes and the course of information and enables it by the package as its business processes. But the organizations which exist for a longer period will not be capable to change the way of work so easily to adjust to the package.

Some types of IS can be developed by the side of final users with a little or without any help of the technical experts: the phenomenon is called ***the development of the final user***. Using the language of the fourth generation, graphic languages, and PC software tools, the final users can access the data, create the reports and develop the IS by themselves, with a little or without any help of the programmers or the analysts of the professional system. Many organizations have reported the advantages in the productivity of the application development, using the tools of the fourth generation, which in some cases has achieved 300% to 500%. But still, the tools of the fourth generation still cannot replace the traditional tools for certain business applications, because they cannot manage with the large number of transactions or the applications. In order to help the organizations to maximize the advantages of ***the final user application development***, the management should control the final user application development requesting the cost justifiability or the projects of IS of the final user, and as well as with the determination of the hardware, software and the quality standards for the applications which have been developed for the final users. When this system becomes popular, the organizations use the informational centers to promote the standards for hardware and software, so the final users cannot represent various and incompatible technologies in the company. ***The informational centers*** represent the hardware, software and technical experts which enables the final users with the tools, trainings, and the expert advices, so they could develop the IS applications by themselves or to increase their productivity. The role of the informational centers is increasing with

the increasing of the computer programs knowledge and skills of the final users, but the organizations should continue to monitor and to manage the development of the final user. (Fuller and Swanson, 1992)

Outsourcing/ Externalization is the case when the company does not want to use the internal resources to create or to manage the IS, that company can hire the outer organization which is specialized in the providing of these services, to finish the work. The process of turnover of the organizational processes of the computer center, telecommunication networks, or the development of the applications for the outside promoters is called **the outer sources (out-sourcing)**. The registered companies would use the software and the computer hardware provided by the side of the application experts (ASP), as well as their technical platform for their system. Another way of use of the outer resources is hiring the outer promoters to design and create the software for their system, but the company would be working with the system on their computers. This system has become popular because some organizations have become aware that it is cost efficient from the delay of their computer center or the personnel of the IS. The advantages of providing the outer resources: the same knowledge, skills, capacities which can be shared with many other various buyers, and it can also provide the competitive values for the IS services. This system provides to the company with the fluctuation needs to pay only what it uses, and not to build its computer center. Some companies search for the outer resources because their internal IS staff cannot track all technical changes or the innovative business practices. Not every organization gets the benefits with the use of outer resources, and the lack of this system can cause serious problems for the organization if they are not well understood or managed. Many companies underestimate the costs for identification and evaluation of the IT service promoter, shifting to the new promoter and for the monitoring of the promoter to be sure that they perform their obligations from the contract. The companies should be careful when using the outer resources to build or to manage the applications which have to give them some sort of competitive advantage.

DEVELOPMENT OF A DIGITAL COMPANY

E-purchase and e-sale, e-business, and newly created digital companies are exposed to new challenges in order to upgrade digital environment. Business needs new software components which can be added, modified or changed in terms of finding answer to new business opportunities. Systems must be adaptable to accept greater number of users and to deliver information over different platforms – client/server networks, personal workstations with web browsers and other mobile devices. E-trade and e-business systems must be designed to fully operate with existing hardware and software in company. In digital company environment all technological capabilities must be easily added, changed or abandoned. Companies adopt shorter, informal processes of development of many e-business applications. Those processes insure faster solutions which do not brake their key transaction processes and files.

Companies increasingly adopt development of systems based on object-oriented software which is more flexible and easier to build and maintain. This approach is rather different than traditional one. Focus of design moves from separated processes of modeling and information handling to forming unique combining of data and procedures in single objects. System is designed as collection of objects and relationships among them. All objects are defined, programmed, documented and stored for current and future use within new applications. This approach reduces time and costs of software development. New systems can be created with use of existing objects, modifying them and adding new ones. Such system development is very useful for creation of web applications.

Rapid Application Development (**RAD**) process is being used to describe process of moving of working systems in short period of time. RAD can include visual programming, use of some other graphical components, automation of generation of source code, and narrow cooperation between users and programmers. Sometimes a technique called Unified Application development (**UAD**) is used to accelerate generation of information demands and for development of initial design of a system. Appropriate use of UAD technique can significantly accelerate design of the system by including users of the system in process of design.

Web services are software components accessible on Internet. They make it possible to have communication between different applications with no additional translator. Web services can provide significant reduction of costs in software use. This approach has three levels. First level consists of software standards and communication protocols as XML, SOAP, WDSL and UDDI. This allows easier exchange of information between different applications. XML secures standard description of data in web pages and files. SOAP allows exchange of data between applications. WDSL is a language for description of a web service. UDDI relates to unique description of the process. Mid level of web services consists of a network of services and applications in order to create environment for processing key business activities. This mid level of services secures set of distributed services for insurance, billing and payments which are being used for business functions and transactions over Internet. Third level of web services consists of applicative services for processing of credit cards or production distribution, which automate specific business functions. Some services are in ownership of IT companies and some are common ownership of user companies. User companies can develop own applicative services and to offer them for further use on market.

SUMMARY

1. Building of a new Information System is a form of a planned organizational change. This process includes different human profiles within a company, changes

in working procedures, management and organization. There are four major steps in changes: automation, rationalization of procedures, reengineering of business processes and concept of major changes which bares greatest risks and awards.

2. Plans of development of Information System should describe IT support accomplishment of business goals of a company. These plans create directions of system development, rationalization, implementation strategy and budget. Analyses of activities and key factors of success can be used for collection of information demands and must be included in initial plans.
3. Key activities in system development are analyses of system, design, programming, testing, conversion, production and maintenance. System analyses relate to study and analyses of problem of existing system and identification demands for their resolution. Design of system allows creation of specifications for IS construction. This process shows how to combine technical and organizational components.
4. There are some alternative methods of IS construction. Every alternative method is mainly created for construction of a specific IS. The oldest method is IS Life Cycle. This method allows construction of IS in phases. All phases must be implemented gradually and must have defined outputs. This method is suitable for projects of implementation of big IS. Such big projects demand from managers to have full control over every single phase of implementation. This approach is rather rigid and expensive and it is not suitable for application oriented on processes where decisions must be rapidly visualized.
5. In order to keep being competitive on market companies apply processes of Rapid Application Development (RAD), Unified Application development (UAD) and existing software components to accelerate process of IS development. Object oriented software decreases time and costs, and simplify maintenance because of its' modular nature. RAD uses object oriented software, visual programming and tools of fourth generation for creation of system. Web services allow companies to build and improve systems by adding functionality of software components over Internet.

REFERENCES

1. Agarwal, Ritu, PrabuddaDe, AtishP.Sinha, and MohanTanniru: *"One-the Usability of OO Representations."* Communications of the ACM 43, np. 10 (2000)
2. Agarwal, Ritu JayeshPrasad, Mohan Tanniru, and John Lynch: *"Risksof Rapid Applica-tion Development."* Sommunication of the ACM 43, no. 11es (2000)
3. Broadbent, Marianne, Peter Weill, and Don st. Clair: *"The Implications of Information Technology Infrastructure for Business Proces Redesing."* MIS Quarterly 23, no.5. (1999)
4. Davenport, Thomas H, and James, E. Short: *"The New Industrial Engineering:*

- Informa-tion Technology and Business Process Redesign*".: Sloan Management Rewiew 31, no 4 (1990)
5. Davidson, W.H.: Beyond Engineering: *"The Three Phases of Business Transformation,"* IBM Systems Journal 32, no.1. (1993)
 6. Earl, Michael, and Bushra Khan: *"E-Commerce is Changing the Face of IT."* Sloan Management Review, (2001).
 7. Fuller, Mary K., and E. Burton Swanson: *"Information Centers as Organizational Innoova-tion."* Journal of Management Information Sstems 9, no. 1 (1992)
 8. Gill, Filip: *"Flower Power"*, Oracle Profit Magazine (1998)
 9. Hammer, Michael, and James Champy, Reengineering the Corporation. New York: Harper-Collins Publishers (1993)
 10. Rockart, John F., and Michael E. Treacy: *"The CEO Goes On-line"*, Harward Business Review (1982)
 11. Schmidt, Douglas C., and Mohamed E., Fayad: *"Lessons Learned Building Reusable OO Frameworks for Distributed Software."* Communacations of the ASM 40, no 10 (1997).

INFORMATION COMMUNICATION SUPPORT TO CRISIS MANAGEMENT IN ENVIRONMENT PROTECTION

Ninoslav Novak, Faculty of Economics in Osijek

Koraljka Novak, Institute of Employment, Osijek

ABSTRACT

The use of an all-present and efficient computer-communication technology (ICT) during planning and rational procedures of preventive and repressive environment protection, waste management (gOTP) and implementation of rat poisoning, disinsectization and disinfection (DDD) in the area of the City of Osijek has not become a standard procedure yet. Putting in the limelight of the new and verified ICT possibilities and new functionalities in the use of the Internet for planning and implementation of gOTP and preparing of preventive and repressive DDD procedure implementation in the area of the City of Osijek and the area of Eastern Slavonia can dramatically decrease business costs, increase the effects of protection means application and especially influence environment preservation. The use of the available data bases about space and the possibility of manipulation with this spatial data bring us even closer to the time, when the control and the supervision over space will be in real time with possibilities of direct intervention.

In this paper, some possibilities and the operationalization of a systematic approach to the formation of various communication and network services in the Internet environment for the purpose of management and improvement of ICT use in gOTP and DDD, especially in the field of public health care are being considered.

Especially presented is the building of the information system and its testing implementation in the environment of interactive use of WWW service illustrated with preparing of preventive and curative combating of various pests in urban and rural communities.

Structure, friendliness of use and the systematic quality of the approach and the use of network services in the Internet, as well as the possibility for the use of computer aided techniques for an effective and quick resolution of environment protection problems on a large area are being emphasized.

Also some temporal, spatial and financial quantifications, we had achieved by a systematic verification of implemented users support, are given.

From the perspective of the users and the administrators of the prepared software, available numeric and graphic data, as well as automated textual reports related to DDD and waste management jobs in interactive multimedia environment were systematically analyzed. The importance and some forms of indirect benefits, which through the use of WWW service in the Internet become or already are an imperative support to various jobs for various expert and operative structures related to these two activities, are being emphasized.

In the paper, organizational, data and communication component of the information system prototype for waste disposal and management is described, and apart from the measurable and immeasurable, as well as direct and indirect results of the information technology application, some procedures in crisis situations are also quoted.

The information given in this paper is intended for scientific, educational, managerial and operational structures in the activity of waste disposal and gOTP, as well as all jobs in DDD, and especially relate to an efficacious management of various ICT services in the management, planning and operationalization of environment protection under the circumstances of sustainable development.

Key words: *ICT, waste management, DDD, environment protection*

1. EINLEITUNG

Die Antwort zu der Mehrheit von den verschiedenen formulierten Fragen ist heute ohne Zweifel – Technologie oder Organisation. Falls Technologie die befriedigende Antwort darstellt, dass bedeutet sicher, dass es sich um ICT handelt, welche von dem hässlichen Entchen von einer gewissen Zeit zu einem schönen und erkennbaren Schwan geworden ist. Indem man die Tatsache beachtet, dass es schwierig oder sogar unmöglich ist, die zeitgemäße Wirtschaft und alle ihrer Tätigkeiten erfolgreich zu koordinieren und ohne verschiedene Arten von Hilfe, welche durch ICT-Gebrauch erreichbar sind, zu verwalten, ist es verständlich, dass in unserer Umgebung immer mehr systematisch und wirkungsvoll verschiedene Arten und Weisen von ICT-Gebrauch für Verbesserung von Planung, Koordination, Geschäftsführung und -aufsicht in der Funktion des Umweltschutzes und in allen speziellen dort anwesenden Situationen angewendet werden.

Mit dieser Arbeit versucht man die Erkenntnis über Anwendung von ICT in diesem Prozess zu erweitern und zu erklären, Benutzerapplikationsprogramm und seine Grundbeschaffenheiten in der Funktion von Planung der Umweltschutzgeschäfte, Evidenz der Umweltschutzgeschäfte, Berichterstellung über Zeit und technischen Mitteln, Stellen, Kostenart und deren Träger, Begleitung von Arbeitskraft, sowie verschiedene Berichterstattungs- und statistische Vorgänge auf verschiedene Weisen zu umschreiben.

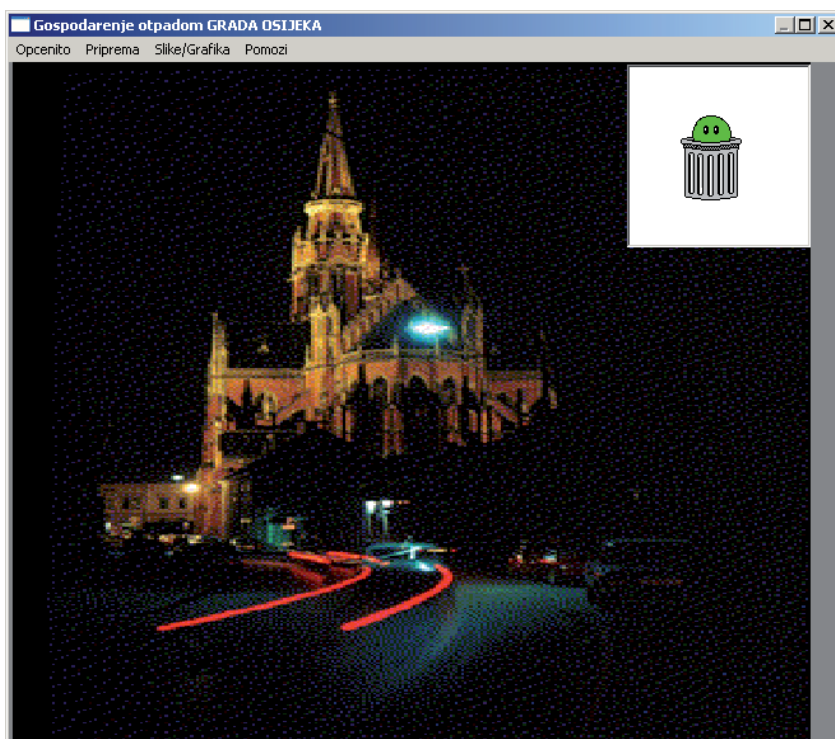


Abbildung 1. Ausgangskommunikationsinterface des Applikationspakets gOTP für Manager

Digitalwirtschaft und Digitalgesellschaft beruhen auf einem intensiven ICT-Gebrauch und werden immer häufiger Synonyme für uneingeweihte Leute. Wegen einer immer breiteren, wichtigeren und anwesenden Einfluss der ICT in dem Zugang und in den Vorgängen der Geschäftsoperationalisierung in Umweltbewahrung sind verschiedene direkte Effekte für angenehme Arbeit des Endbenutzers, in der Funktion eines Planers, Koordinators, Geschäftsführers oder vollziehenden Arbeitnehmers mit Hilfe von einer interaktiven Anwendung der entsprechenden Rechenunterstützung in GUI Gebrauchweise klar erkennbar.

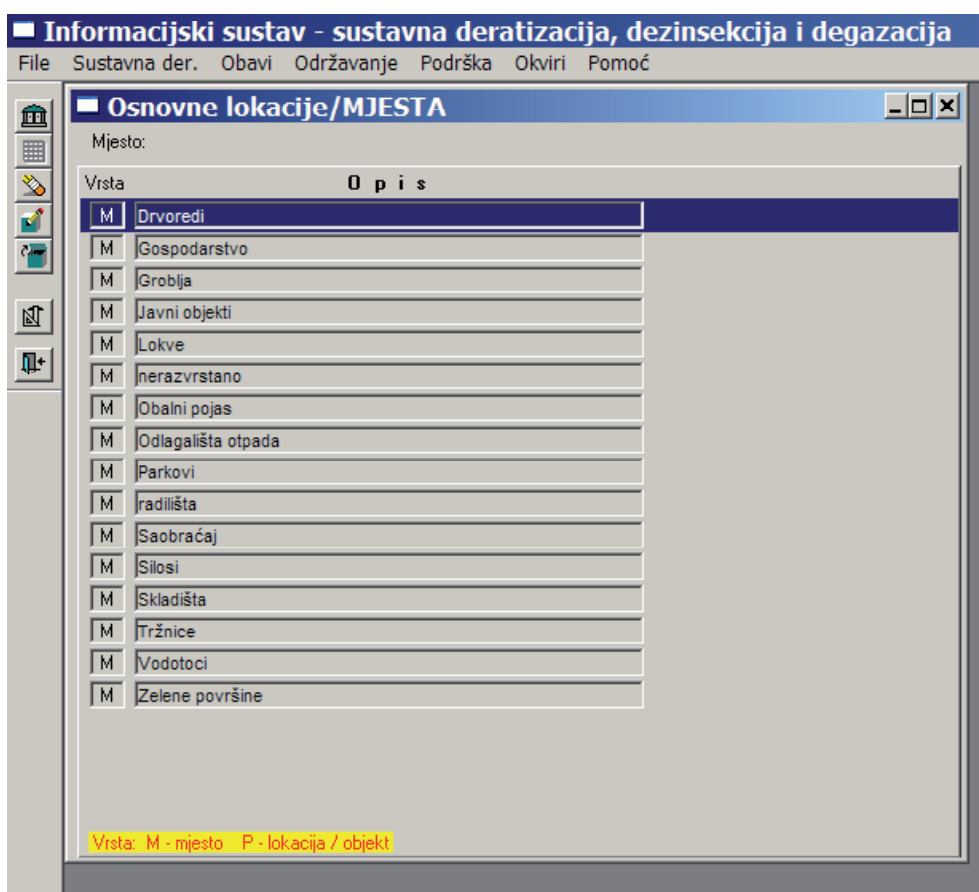


Abbildung 2. Darstellung eine der Möglichkeiten für Entitätsauswahl zur Bearbeitung und Berichterstattung

Fragen bezüglich Computergebrauchs in der Netzumgebung, wie z.B. was ist Internet und wie funktioniert es – werden heute praktisch nicht mehr auf diese Weise gestellt. Der Computergebrauch in Kommunikationsumgebung hat die Nutzbarkeit seiner Anwendung für einen breiten Kreis von Endbenutzern dramatisch vergrößert und verschiedene Formen von Präsentation der Bearbeitungsergebnisse verbessern die Wirksamkeit einer solchen Weise von Angabenspeicherung, -bearbeitung und -besichtigung.

Internet wird für direkten und indirekten Austausch von Mitteilungen zwischen Benutzern benutzt und stellt einen unumgänglichen Faktor der Verbesserung und der Wirksamkeitsvergrößerung in der Wirtschaft, in der Gesellschaft, und so auch in der Tätigkeit des Umgebungsschutzes und der nachhaltigen Entwicklung dar. Man kann nicht mehr über Raum- Inhalts- und Zeitbegrenzungen in der Erreichbarkeit vor irgendwelcher notwendigen und zur Verfügung stehenden Angabe sprechen, weil es gewiss ist, dass sich jemand schon Mühe gegeben hat und viele notwendige Angaben im Internet hinterlassen hat.

Was wird durch einen solchen Zustand und die bisherige, und noch mehr durch die zukünftige Entwicklung, als unmittelbare und messbare Verbesserungen im Gebiet des Umweltschutzes in einem beliebigen Gebiet ermöglicht?

Im Allgemeinen in der Wirtschaft und besonders in der Tätigkeit von gOTP und DDD ist die Anwendung von ICT, d.h. die Anwendung von Internetfunktionen - Service nach einigen Indikatoren (Organisationsform, Anzahl von Computern, verfügbare Programmierungsunterstützung, erreichte Ergebnisse, Ausbildung der Leitung und der Endbenutzer ...) noch nicht auf dem notwendigen Niveau und entspricht der Wichtigkeit, welche Umgebungsschutz und Gesundheitsbewahrung in der kroatischen Gesellschaft haben, nicht.

Gospodarenje otpadom GRADA OSIJEKA
Priprema podataka

RAJON: A-1, A-2, A-3

Spremi **Novo**

Ulica	Neparni #	Parni #
Sunčana	5 do 9	6 do 18
BELE BARTOKA	5 do 9	6 do 10
KOPAČEVSKA	5 do 7	6 do 8

Blok: A-2 **Ulica:** Sunčana **5**

Općina: Osijek **Broj katova:** 2
Naselje: Osijek **Broj stanova:** 4
Mjesna zajednica: ZRINJEVAC **Broj poslovnih prostora:** 2

Voda: ☒ Vodovod ☐ Cisterna ☐ Bunar
Kanalizacija: ☒ Gradska ☐ Septička jama ☐ Crna jama

Grijanje: ☐ Centralno ☐ Etažno ☒ Individualno
Smeće: ☐ Kanta ☐ Plast. vreće ☐ Smetlarnik ☒ Kontejner ☐ Baja

Vlasništvo: ☐ Privatno ☐ Državno ☒ Mješovito
Namjena: ☐ Stambena ☐ Poslovna ☒ Mješovita

Podstanica: ☐ **Podrum:** ☒ **Medj.prostor:** ☐ **Vertikala:** ☐ **Stepenice:** ☐ **Garaža:** ☐ **Svjetlarnik:** ☐ **Lift:** ☐ **Tavan:** ☒ **Vrt:** ☒ **Stala:** ☐

Opaske: Limene konzerve

Abbildung 3. Aussehen des Benutzerschirmes mit Angaben über besiedeltes Objekt

Die Aufgabe einer dauerhaften Bewahrung von gesunder Umgebung ist mit Hilfe von ICT leichter umsetzbar. Natürlich werden dabei Organisations-, Kommunikations- und Technik- und Technologiefaktoren ins Zentrum der damit verbundenen strategischen Erwägungen gestellt.

Gesamte Nachwirkungen einer inadäquaten Informationsentwicklung in diesen Gebieten können mit Hilfe von ICT leichter amortisiert und beseitigt werden.

Die Vorteile des ICT-Gebrauchs sind zahlreich.

- Die erste Gruppe von leicht sehbaren, jedoch aber schwierig messbaren und leicht erkennbaren Vorteilen tut sich klar durch eine erleichterte Anwendung von ICT und ohne eines langwierigen Ausbildungsprozesses des Endbenutzers, auf eine solche Weise, welche Zutritt zu jeder erwünschten Information und jeder notwendigen Angabe sicherstellt hervor.
- Die zweite Nutzbarkeitsgruppe der ICT-Anwendung stammt von der Erkenntnis über die Verfügbarkeit und der allgemeinen Anwesenheit in der Echtzeit einer großen Anzahl von den für verschiedene Bearbeitungsarten und verschiedene

Benutzer erforderlichen Angaben.

Man braucht nur Willen, dass man ICT wirkungsvoll zu benutzen beginnt, denn das Bedürfnis besteht sicher und wird zweifellos mit der Zeit noch mehr ausgedrückt werden.

ICT-Benutzung für Projektierung, Ausbau und Gebrauch von einem rechenunterstützten Informationssystem für Koordination und Aufsicht der Abfallentsorgung (gOTP) in einer mittelgroßen Stadt ist die fundamentale Voraussetzung für eine annehmbare und jedoch nachhaltige Vergrößerung von messbaren und nicht messbaren Vorteilen des Gebrauchs von neuen Technologien in diesem Gebiet.

Ein funktionales und operatives, der Wirtschaft, der Verwaltung und dem Umgebungsschutz orientiertes rechenunterstütztes Informationssystem, gOTP, stellt die Ausgangsbasis für die Erreichung von wesentlichen strategischen Zielen dar: kontrollierte und koordinierte Bewirtschaftung und rationale Verwaltung von allen Geschäften im Zusammenhang mit Müll, indem man über verfügbare Organisations-, Raum- und sonstigen Ressourcen Rechnung führt. Ökologisch annehmbare Veränderungen mit einem gezielten ökonomischen Gewinn, welcher Umgebungsbewahrung und Gesundheitsschutz bei Menschen und Tieren (in lokalen und breiteren Verhältnissen) befördert, befinden sich bei diesen Bemühungen im strategischen Mittelpunkt.

Ausbau und Bestehen des Mustermodells eines Informationssystems für Verwaltung, Koordination und Aufsicht der Müllentsorgung wird aufgrund von strategischen, taktischen und operativen Bedürfnissen auf allen Ebenen der lokalen Verwaltung, Führung und Ausübung von Müllentsorgung und Müllbewirtschaftungsgeschäften in Osijek und der Umgebung verwirklicht. Das gOTP Informationssystem fördert unmittelbar planmäßige, operative, Aufsichts- und Routineführung der automatisierten Dokumentation and der Berichte über die gesamte Müllentsorgung in diesem Gebiet.

Die Entwicklung des gOTP Informationssystems ist eine anspruchsvolle und verantwortliche Arbeit, sowohl auf der operativen (wirtschaftlichen) als auch auf der leitenden (strategischen) Ebene und durch den Prototypzugriff werden positive Leistungen bei einem solchen Geschäftsunternehmen maximiert.

Die Probleme im Zusammenhang mit einer rationalen Müllentsorgung und -bewirtschaftung sind verschieden: organisatorische, planmäßige, leitende, wirtschaftliche, schützende, biologische, technologische, Personal-, Entwicklungs-, Kommunikations-, Informationsprobleme, ...

Es ist unbedingt nötig, das Programm einer wirkungsvollen Müllentsorgung in einem urbanen und ländlichen Milieu, auf einer interdisziplinären Ebene, durch ein Computer-Informationssystem zu unterstützen.

In diesem Zusammenhang wird die planmäßige, normalisierende, organisatorische, Informations-, leitende und operative Ebene des Aufbaus und des Gebrauchs eines Computer-Informationssystems in der Ortsausführung und in der Kabinettbearbeitung der Müllentsorgung und -bewirtschaftung (gOTP) in Betracht gezogen. Im Fokus

der Betrachtung befindet sich ein systematischer Zutritt zu diesen Problemen und die Beschreibung eines zeitgenössischen Computer-Informationssystems für Müllentsorgung (gOTP). Besonders sind hier Voraussetzungen für eine systematische Lösung von planmäßigen, operativen und betrieblichen Problemen der gOTP durch die Anwendung von Informationstechnologie, Expertensystemen und Entscheidungsunterstützenden Systemen hervorgehoben und bearbeitet, wobei Standardisierung und moderne Computertechnologie eine große Rolle spielen.

Darunter versteht man die Ausführungsbeschreibung eines integralen Computer-Informationssystems:

- gOTP -Verwaltung auf einer strategischen und operativen Ebene (Raum- und Zeitplanung, Evidenz, Geschäftsführung, Gesundheitsschutz, Abrechnung, Deponieverwaltung, ...),
- kommerzielle und finanzielle vollziehende Organe (Vertragsverhandlung, Fakturieren, Berichtswesen, ...),
- Aufsicht, Kontrolle und Koordination von allen Müllentsorgungsstrukturen, öffentlichem Gesundheitswesen und sonstigen Auftraggebern (Kosten, Wirkungskraft des gOTP-Verfahrens, statistische Berichte und sonstiges).
- Betriebsbuchhaltung der kommunalen Müllentsorgung und -bewirtschaftung (Pläne, Kalkulationen, Angebote, Arbeitsaufträge, Arbeitszeitabrechnungen, Gebrauch von Einrichtungen und sonstigen Fahrzeugen, Beauftragung von persönlichen Schutzmitteln und deren Naturalverrechnung, ...

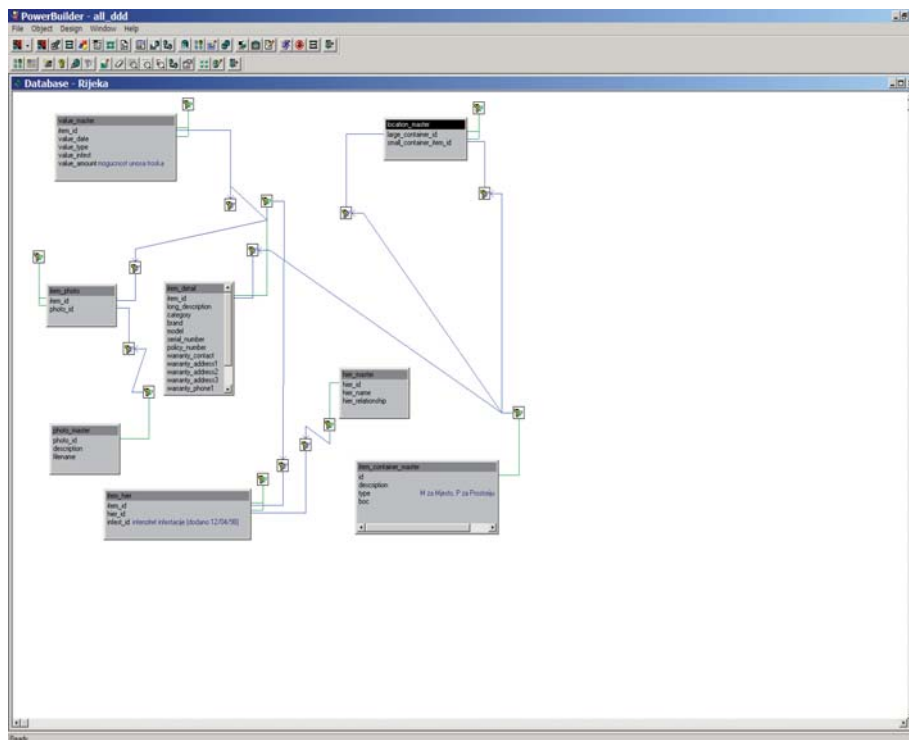


Abbildung 4. Darstellung der Verhältnisse und einige Tabellen der Relationsdatenbasis im gOTP und DDD Projekt

Die Stadt Osijek hat immer, als ein vorbildlich organisiertes Zentrum, und besonders in der freien und selbstständigen Republik Kroatien, große Aufmerksamkeit dem Umgebungsschutz, sowie einer rationalen und nachhaltigen Entwicklung bezüglich der Müllentsorgung und der Abfallbewirtschaftung erwiesen.

Die Anwendung der zeitgenössischen Informations- und Kommunikationstechnologie während Plan-, Berichterstattungs-, Organisations- und Operativaufgaben und Tätigkeiten im Zusammenhang mit Entsorgung und Bewirtschaftung von allen Sorten von Müll ist für die Expertendiensten der Stadtverwaltung der Stadt Osijek zum Imperativ dieses Zeitpunktes geworden.

In der Ausführbarkeitsstudie der Projektierung, des Aufbaus und der Anwendung des Computer-Informationssystems für Unterstützung von Müllentsorgung und -bewirtschaftung, auf verschiedenen Entstehungsstellen, hat man besonders Ziele von einem solchen komplexen und komplizierten System in Betracht genommen.

2. gOTP und DDD Förderung mit Hilfe von ICT

Mit Rücksicht auf die Tatsache, dass wir in einer Digitalgesellschaft leben, ist es verständlich, dass Projektierung und Implementieren von Informationssystemen für

gOTP im Tageseinsatz zu einer unumgänglichen Notwendigkeit wird. Diese Tatsache ist der Grund für Projektieren und Anwendung des Programm- und Applikationspakets für gOTP und DDD.

DDD und gOTP ist ein Recheninformationssystem, welches einige funktionalen Programmpakete für volle Automatisierung der Orts- und Kabinettgeschäfteführung, Planung, Operationalisierung und Verrechnung im Gebiet der Vernichtung von Ratten und Insekten und Desinfektion, Müllentsorgung und -bewirtschaftung ganz harmonisch in sich integriert, aber kann auch für andere Zwecke gebraucht werden! Es ist bestimmt für alle, die für das öffentliche Gesundheitswesen auf der Gemeinde- und Gespannschaftsebene Sorge tragen und für alle andere, welche auf irgendwelche Weise um Gesundheitsschutz bei Menschen und Tieren, sowie Umgebungserhaltung sorgen.

DDD und gOTP ist vorbildlich dokumentiert und wird in angenehmer Benutzerumgebung einfach gebraucht. Der Endbenutzer des Programmpakets gOTP und DDD kann Mitglied eines Ökostabs oder Krisenstabs, Direktor, Geschäftsführer, Lagerverwalter, Betriebsbuchhalter oder eine andere Fachperson für direkte oder indirekte Kontrolle der Geschäfteführung in DDD sein.

Das Applikationspaket und die Dateibase der gOTP und DDD sind modular in Windows- Umgebung ausgebaut.

Die Anwendung dieses Rechenwerkzeugs fördert direkt die Plan-, Organisations-, Operations-, Verwaltungs-, Leitungs-, Geschäfts- und Sicherheits-Gesundheitskomponente während der Ausübung von allen Aktivitäten der gOTP und DDD.

Ein wichtiger Vorteil dieses Pakets ist seine Modularität, Integralität und Standardisierung, welche einen verschiedenartigen Gebrauch versichern. Standardisiert und eindeutig bezeichnet sind Pestizide, Gebrauchstechnologien, Anwendungsgebiete, Geschäftsorten, Benutzer, Zahlungsweisen und gebrauchte Fahrzeuge und Maschinen und alles Sonstige, was einer vergrößerten Wirksamkeit und Gebrauchsrationalität beiträgt.

Diese Applikationspakete sind modular gebaut, so dass man diese wegen Rationalität und verschiedener Bedürfnisse des Endbenutzers auf mehrere Weisen gebrauchen kann:

- A. für eine vollkommen systematische Ausführung der DDD-Verfahren und Müllentsorgung mit verschiedenen Modulen (Abrechnungen, Lagerhantieren, Evidenz von allen Formen von Dienstleistungen, Kostenbegleichung, Gesundheitsschutz der Arbeitnehmer, ..);
- B. als Betriebsbuchhaltung mit Ausgabe und Abrechnung von Arbeitsaufträgen;
- C. als Evidenz der Dienstleistungsbenutzer mit allen Abrechnungen und

vollkommenem Lagerhantieren;

D. als Grundlage eines Expertensystems für Ausübung von gOTP und DDD.

Jede rationale Menschentätigkeit gründet sich auf den gesetzten Zielen und Strategie, damit diese Ziele in einer bestimmten technischen und operativen Umgebung erfolgreich erreicht werden, so dass ein allumfassender Einsatz der ICT dabei eine Unvermeidlichkeit darstellt.

Die gegenwärtige Kommunikations- und Informationstechnologie trägt der Rationalität bei solchen Bemühungen am meistens bei.

Alles was der Benutzer fürs Fassen von planmäßigen und operativen Beschlüssen operativ gebrauchen soll und kann, indem er Applikationspakete der gOTP und DDD gebraucht, kann er ohne Schwierigkeiten durch den Gebrauch von anwenderfreundlicher Schirmschnittstelle erreichen und in einer bestimmten Umgebung besteht der Vorzug eines direkten Internetdaten Zutritts, zu jeder Zeit und von verschiedenen Orten.

Die Statistik- und Nachrichtenkomponente dieses Informationssystems stellt eine vorbildliche halbautomatische Modellierung von bestimmten Situationen im Zusammenhang mit Müllentsorgung und -bewirtschaftung und den Geschäften des öffentlichen Gesundheitswesens, sowie ihre kontrollierte und automatisierte digitale Simulation, sicher.

Das Projekt der Müllentsorgung unter einem allseitigen ICT-Gebrauch ermöglicht Koordination, Kontrolle, Verwaltung, Automatisierung und Beförderung:

- von Kabinett- und Feldplanung und Operationalisierung der Müllentsorgungsgeschäften aufgrund von realen Raum- und Zeitdaten (in Echtzeit),
- Ausübung von Entsorgungsgeschäften für alle Sorten von Müll aufgrund von Realdaten (Mengen, Stellen, Oberflächen, Sorten, Entstehungszeit, ...),
- wirtschaftlich bessere Entsorgung und Gebrauch von Abfallmittel (Recycling, ...),
- bessere Berichterstattung über erledigte Leistungen von Abfallsammlung und Kontrollverfahren in Abfallwirtschaft (Sortieren, Recycling, Deponieren, ...),
- bessere Zahlungsunterstützung der erledigten operativen Geschäften in Abfallwirtschaft aufgrund von Realdaten (Haushalte, technologischer Abfall, Marktplätze und öffentliche Flächen, Herstellungs- und Dienstleistungstätigkeiten, ...),
- wirksamer Schutz persönlicher Gesundheit der Bevölkerung und operativer Arbeitnehmer (lokales und globales ökologisches Aspekt der nachhaltigen Entwicklung und der Geschäfte des öffentlichen Gesundheitswesens),
- Sorge über wirkungsvolle Überwachung des Umgebungszustandes,
- Verfahren der Katasterführung bezüglich Umweltbelastung und Protokolle über

Umgebungszustand in Bezug auf Müllentsorgung,

▪ Beseitigung oder rationale Verminderung einiger rein mechanischen Manuellverfahren der Datenverarbeitung in Müllbewirtschaftung (klassische Kartendatei, manuelle Berichterstattung aufgrund von nicht automatisierten Verfahren, ...),

- Optimalisierungsweise für Sammlung und Abfuhr aller Müllsorten,
- erleichterte und wirkungsvollere Berechnung von Oberflächen und Lokationen für Mülldeponierung,
- verbesserte Verlegung und Strukturierung von Müllbeseitigungsbehältern,
- Feststellung vom rechtlichen Regulativ beim Sanieren von Schäden durch nicht entsprechende Müllentsorgungsverfahren,
- planmäßige Vermeidung von unnötiger Müllentstehung (technische, technologische und organisatorische Tätigkeiten, ...),
- Aufsicht über Quellen von Umgebungsverschmutzung, sowie Kontrolle und Aufsicht über Umgang mit Müll,
- permanente Steigerung von Lebenskultur und Öko-Bewusstseinsbildung,
- Verbindung mit anderen relevanten Informations- und Verwaltungssystemen des Umgebungsschutzes in der Stadt Osijek (Grundschatz, Luftschutz, Wasserschutz, Lärmschutz, öffentliches Gesundheitswesen, ...),
- indirekte Vorteile von der Anwendung der zeitgenössischen

Informationstechnologie im Gebiet einer wirkungsvolleren Erstattung von Berichten über Müllentsorgungsgeschäfte (Raum- und Zeitstatistik, ad-hoc Anfragen, Bilddarstellungen, Kosteneliminierung, ...),

Das Informationsprojekt gOTP und DDD besteht aus:

- organisatorische Komponente des Projektes,
- programmoperative Komponente des Projektes,
- Computer-Dateibase über Siedlungen, Lokalbüros, Rayons verabredeter Größe (1 km²; 1 ha, 4 ha, 25 ha), Wohn-, Herstellungs- und sonstigen speziellen und öffentlichen Raum, Wohnungen, Attribute der Wohnobjekten,
- Herstellung und Dienstleistungen, Benutzer des Raums und Dynamik von Dienstleistungsausübung in Abfallwirtschaft, Mülldeponien, Sanitärinspektion,
- Zahlungsevidenz von Vertragsgeschäften und systematischen Müllentsorgungsgeschäften und
- Sanieren von Unfallzuständen,
- Berichterstattung und statistische Geschäftsführung in Müllentsorgung,
- (Betriebsbuchhaltung in Abfallbehandlung mit automatisierten Prozeduren von Ausgabe und Abrechnung der Arbeitsaufträge nach Ort, Träger und Kostenart für öffentliche Räume und Oberflächen),
- neue Tarifierungsmöglichkeiten (Rechenschemen) für Müllabfuhr und Entsorgung in der Stadt Osijek,
- räumliche und zeitliche Arbeitsplanung in Abfallwirtschaft,
- Plan- und Verrechnungskalkulationen von Dienstleistungen in Abfallwirtschaft,
- Leistungsabrechnung fürs Sanieren von Wilddeponien,

- (vorbildliche Evidenz von allen Formen von gOTP Tätigkeiten im Stadtgebiet bezüglich öffentlicher Gesundheitswesensgeschäfte),
- operative Dokumentation des Projektes und erforderliche Benutzerbefähigen.

The screenshot shows a software application for waste management data entry. The window title is "Gospodarenje otpadom GRADA OSIJEKA". The interface includes a sidebar with navigation buttons like "RAJON", "Spremi", "Novo", and "Blok: A-2". The main area contains a table of streets (Ulica) with columns for "Mjesni #", "Pam. #", and "Broj stanova". Below this, there are various input fields and checkboxes for waste types (Voda, Grijanje, Vlasništvo, Podzemica, Podrum, Medij prostor, Vertikalna, Stepenice, Garaza, Smetarac, Lift, Tavan, Vrt, Stala) and a list of waste categories (Gradjevinski otpad, Stiropor, Limene konzerve, etc.).

Abbildung 5. Teil der Schirmformschablone für Datenerfassung nach Ort und Müllart

Laut den tatsächlichen Bedürfnissen der Benutzer wird eine automatisierte Führung von Digitaldaten ermöglicht:

- Dateibasen über Parks, Märkte, Straßen, Gebäude, Wohnungen, grüne Flächen, öffentliche Objekte nach Straßen, registrierte Umweltverschmutzer, Wasserläufe, freie Wasserfläche, Mülldeponien, Straßendurchlässe, Marktplätze, Friedhöfe mit allen relevanten deskriptiven Charakteristiken, Benutzer und Objektbesitzer, Müllsorten nach Ursprung, Schädlichkeitsgruppe, Entstehungsform, Müllabfuhrdynamik, technische Mittel für Müllabfuhr, ...
- Schirm- und abgedruckte textliche, zahlenmäßige, statistische und graphische Berichterstattungskomponenten in Bezug auf Abfallwirtschaft,
- Kommunikationskomponenten für wirkungsvollere Erhaltung und weitere Entwicklung des Müllentsorgungsprojektes auf Gospanschaft- und Staatsebene.

Die komplette Organisations- und Informationsgrundlage des gOTP Projektes ist, was Normalisierung anbetrifft, auf vorbildlich ausgestellten und allgemein angenommenen Standards (Gesetz- und Satzungsvorschriften, erlaubte Weisen und Mittel für Müllentsorgung in RK, Arbeitsöffentlichkeit, Verwendungstechnologien, Sanitärinspektoren, Arbeitnehmer, Benutzer usw.) begründet und abgestützt.

Projekt InfoSys_gOTP - lista ULIC01
4.3.2007

Popis ULICA

Općina **Osijek** Stranica 25 od 46

Sifra ulice	Ulica
Naselje Osijek	
Mjesni ured PODRAVLJE	
444	GRMIJ
976	NOVA
1156	PRINCA EUG. SAVOJSKOG
Naselje Osijek	
Mjesni ured SJENJAK	
848	MARTINA DIVALTA
1292	SJENJAK
Naselje Osijek	
Mjesni ured SVETI JOSIP RADNIK	
180	BREZNIKA
196	BUNSKA
212	CETINJSKA
252	NIKOLSKA
296	DOBRA
328	DRINSKA

Tiskaj Tiskam, pričekaj ... Gotovo

Abbildung 6. Übersicht augenlesbaren Dokumentes über räumliche Entitäten

3. Einige messbare Indikatoren des gOTP und DDD Gebrauches in ICT Umgebung

Dieses Projekt kann integral oder partial installiert und gebraucht werden. Im integralen Paket befindet sich die gesamte Dateibase für Feld- und Kabinettschäftsführung von Abfallwirtschaft und Geschäfte des öffentlichen Gesundheitswesens für die Stadt Osijek und die vorstädtischen Siedlungen.

Es soll besonders hervorgehoben, ermahnt und betont werden, dass man mit Hilfe von gOTP- Projektgebrauch Geschäfte von Müllentsorgung und -bewirtschaftung in irgendwelcher Form angenehm planen, ihre Ausführung koordinieren und sehr effektiv

die tatsächliche Aufsicht über Qualität und Quantität der dienstfertig durchgeführten Feldgeschäfte in Abfallwirtschaft und Sanieren von Wilddeponien in einer solchen Arbeitsweise durchführen kann. Die Anwendung des Projektes vermindert auch direkt und indirekt Geschäftskosten und beschleunigt Arbeitsplanung und Verwaltung und verbessert die Lebensqualität in der Stadt Osijek. Es ist besonders wirksam in Verwaltung, Planung und Durchführung von Geschäften im öffentlichen Gesundheitswesen auf dem Gebiet der Nagetierbekämpfung und allen Sorten von, insbesondere, fliegenden Insekten. Die Unterstützung von solchen Geschäften, sowohl im leitenden, planmäßigen und operativen Teil, als auch in Verrechnungs- und Berichterstattungsaufgaben ermöglicht unmessbare Vorteile für diejenigen, die es auf irgendwelche Weise gebrauchen.

Die Anzahl von standardisierten Berichten aus dem DDD und gOTP Projekt entspricht der bestehenden Weise von Berichterstattung in den Tätigkeiten des öffentlichen Gesundheitswesens und Umweltpflege. Sie können nach Form und Inhalt des Berichtes allen Ansprüchen angepasst werden.

Computerprogramms, Dateibase und Benutzerschnittstelle im ICT System gOTP und DDD sind durch zeitgenössische Informationstechnologie in Windows-Umgebung ausgeführt. Sie können für verschiedene Plattformen von Relationsdateibasen (SyBase, Oracle, Informix, Ingres, SQL base, SQL Server, ...) und für Applikationsintegration mit sonstiger Benutzerumgebung in der Automatisierung von Bürogeschäften benutzt werden.

Die Wirksamkeit des gefertigten Projektes gründet sich auf einer gut ausgeglichenen Informations-, Organisations- und Wissenschaftsunterstützung während der Geschäfte der Müllentsorgung, mit Kenntnissen und Gewandtheiten aus dem Gebiet der Informatik, Ökologie (Umgebungsschutz) und öffentlichen Gesundheitswesens verbunden.

5. BESCHLUSS

Alle Teilnehmer in Verwaltungs-, Plan-, Operations-, Koordinations-, Kontrolle- und Berichterstattungsgeschäften im Zusammenhang mit Müllentsorgung und -bewirtschaftung, Geschäften des öffentlichen Gesundheitswesens und Umgebungsschutzes sind in der Ausübung von ihren Geschäften und Aufgaben auf der strategischen, taktischen und operativen Ebene wirkungsvoller, wenn sie die Informations-Kommunikationstechnologie rational gebrauchen. Benutzer und Hersteller der Ausrüstung und der Umgebungsschutzmittel in diesem und in einem diesem Gebiet nahen Gebiet, wo man über Gesundheit der Bevölkerung, des Viehs und der Pflanzenwelt Sorge trägt, können mit Gebrauch von auf ICT gegründeten Informationssystemen bessere wirtschaftliche und allgemein nutzbare Ergebnisse erzielen.

Unvermeidlich ist auch die Wichtigkeit und die Rolle der ICT im Falle von Unfallzuständen, Prozessen und Ereignissen, falls man ein Teil der Managerentscheidungen in Ökostäben aufgrund von Feldereignissen und den bestehenden im Kabinett vorbereiteten Angaben, dank dem Bestehen und dem Instandhaltung von spezialisierten Dateibasen,

PERCEPTION OF ICT USAGE IN SMEs

Edin Osmanbegović, MBA

Asim Tenić, PhD

Faculty of Economics, Tuzla

ABSTRACT

Adoption of ICT and Internet technologies is very fast growing process in modern business. There are many issues to be researched within the area. Some of the most important issues are penetration of ICT, usage, business impact, employees' impression, etc. Majority of these factors have quantitative nature and can be measured very precisely. Employees' impression of ICT and Internet usage in companies has subjective nature and measurement of this variable has qualitative character. It is rather interesting whether this subjective impression of ICT and Internet usage differs from objective picture of state of the art.

1. CONCEPTUAL FRAMEWORK

Penetration of ICT technology is rapidly growing process in modern economy. There are three significant issues regarding ICT technologies in enterprises and they are as following: readiness (penetration in % of companies), usage of ICT (use of ICT for different purposes) and the impact of the usage. Beside these quantitative and measurable factors, important issue is what employees' perception of ICT usage in companies is. Most companies today have Internet access with very high penetration in most countries. While the first half time of analyses is focused on readiness and usage of ICT, the impact side and employees' impression are increasingly getting in focus now.

Readiness as a measurable variable is related to the penetration of key IC technologies in companies, usage is related to the use of ICT and the Internet and other computer mediated networks like EDI for purchases and sales (e-commerce). The impact is related to increased business performances of companies due to usage of ICT.

According to some authors, definition of Information Society statistics cover the production, readiness for, usage, and impact of Information and Communication Technology (ICT) goods and services¹. This approach in reality covers all major aspects of implementation, usage and effectiveness of ICT in companies and everyday life. But perception as a significant factor is not covered by this definition. Perception is related

¹ Buchow H., David C., Eurostat Section Information Society Statistics, Geneva, 2003, p. 7

to employees' impression and feeling of usage and effectiveness of ICT and how good as users they are. Perception of employees' could be analyzed through all stages of ICT presence in company. This is rather complex issue that needs to be broadly studied. In this paper it will be given views of employees' perception of ICT presence and usage in companies. Users' perception has an influence on adoption and effective usage of ICT and Internet in companies. It can be seen as "percentage variation from the average" of **education, age and income that** appear to be the most important variables along which the perception is configured².

Usage of ICT in different regions and countries is on different levels. The Nordic countries (Norway, Denmark, Sweden and Finland) were in the lead, researches show that all companies are having web access and almost all companies having an own web site. Southern European countries in many parameters were somewhat lagging behind.

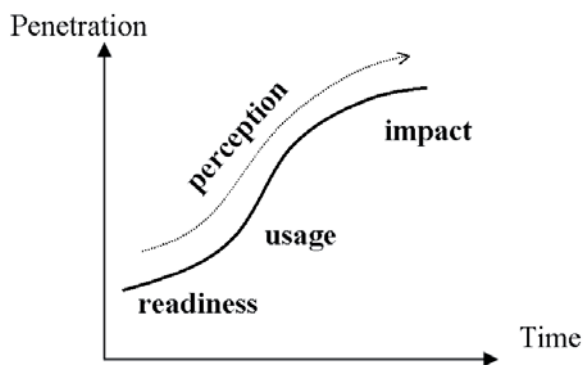


Figure 1: Levels of ICT presence in company³

South Eastern Europe companies are further behind regarding Internet usage. Research conducted in urban areas of Western Balkan countries, covering towns of Pristine, Skopje, Tuzla and Belgrade, related to Internet penetration and perception of usage of ICT in SMEs, shows visible lag behind in some areas and distinction among them. In particular urban area of Tuzla in Bosnia and Herzegovina shows weaknesses as shown in figure 2.

² Commission of the European Communities, eInclusion revisited: The Local Dimension of the Information Society, Commission Staff Working Document, 2005, p. 10

³ Deiss R., The EU surveys on ICT usage of enterprises, Eurostat, 2004., p. 4

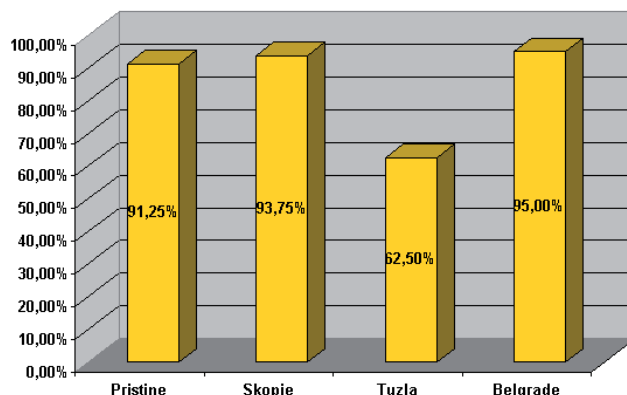


Figure 2: Internet penetration in SMEs of urban areas of Western Balkan⁴

Regarding overall Internet penetration and usage there are big differences among mentioned areas. As shown in Table 1, average penetration of Internet in EU is 50.3%. In Norway, as mentioned earlier, penetration is over 70%, while penetration in SMEs go over 99%.

EUROPE	Population (2006 Est.)	Internet Users, Latest Dana	Penetration (% Population)	% Usage of World
European Union	462,371,237	232,744,558	50.3 %	22.3 %
Rest of Europe	234,711,764	42,301,615	18.0 %	4.1 %
TOTAL EUROPE	807,289,020	294,101,844	36.4 %	28.2 %

Table 1: Usage of Internet in Europe⁵

South Eastern Europe countries fall far behind these figures. As shown in Table 2, penetration goes far under 30%, except Croatia. Situation is worst in Bosnia and Herzegovina. So presence of Internet and ICT sector is very. These objective figures given as results of scientific research is hard evidence of SE Europe countries overall falling behind developed EU countries.

⁴ Osmanbegović E., "Usage of Internet as relevant Source of Business Information in Terns of Support to SMEs", Master Report, Faculty of Economics, Tuzla, 2006, p. 86

⁵ Internet World Stats, <http://www.internetworldstats.com/stats4.htm>, 2006.

EUROPE	Population (2006 Est.)	Internet Users, Latest Data	% Population (Penetration)	% Users Europe
Bosnia-Herzegovina	4,568,399	225,000	17.7 %	0.3 %
Croatia	4,464,117	1,303,000	32,5 %	6.8 %
Macedonia	2,048,624	392,671	19.2 %	2.1 %
Serbia & Montenegro	10,717,314	1,517,000	14.2 %	0.5 %

Table 2: Usage of Internet in countries some of SEE region⁶

2. SOME ASPECTS OF ICT AND INTERNET USAGE IN URBAN AREAS OF SE EUROPE

Regarding state of art of ICT in SMEs sector in SE Europe countries, situation is rather better than in society as a whole. As given in Figure 2, over 90% of SMEs in urban areas have Internet access. Some researches show that penetration in rural sector is much lower, as half number of urban areas. Still SMEs in Bosnia and Herzegovina show rather great weaknesses in Internet penetration and usage.

Sufficient skills of ICT and Internet users in terms of efficiency and purpose are important issue. As given in Table 4, it is significant that fewer than 50% of employees have desired skills of ICT and Internet usage. Advanced skills of computer users assume that users have desired knowledge in usage of advanced functions in text processing, spreadsheets, presentations and data bases design. Advanced skills of Internet users assume that users have desired knowledge in usage of simultaneous search of two or more web locations and knowledge of advanced searching option of at least one major search engine.

Skills of Employees in SMEs	Pristine	Skopje	Tuzla	Belgrade
Advanced skills of computer users	47,50%	43,75%	18,75%	41,25%
Advanced skill of Internet users	47,78%	56,25%	7,50%	31,25%

Table 4: Comparison of SMEs urban areas in Western Balkan⁷

On the other hand employees' impressions of ICT and Internet usage shows significantly different picture. Impression as a measurable variable is fully subjective issue. It is based on personal view of an employee. That personal view is being built through time of the employee having contact with ICT technologies. Impression is not a variable that is being proved scientific evidences but it is an important issue in companies. Management in number of SMEs create ICT policy on own and employees view of the issue. This usually leads to more or less wrong conclusions and development directions.

⁶ Internet World Stats, <http://www.internetworldstats.com/stats4.htm>, 2006.

⁷ Source, SMEs in SE Europe Research Project, Tuzla, December 2005

	Pristine	Skopje	Tuzla	Belgrade
The computer has changed the way we do things in companies	95,00%	88,75%	68,75%	85,00%
Those who are not knowledgeable about computers are falling behind	96,25%	86,25%	88,75%	72,50%
Computers give status to their owners	63,75%	55,00%	76,50%	32,50%
The Internet helps SME look for product information	95,00%	45,00%	65,00%	86,25%
The computer has replaced the telephone as the major communicative device	38,74%	38,75%	13,75%	17,50%

Table 4: Comparison of urban areas in Western Balkan⁸

As shown in Table 4, big majority of employees have very good impressions on the issues like: whether the computer has changed the way employees do things in companies, do computers give status to their owners and the Internet helps SME look for product information, regardless of their competences within the area. In particular many of employees still think that computers give status to their owners. They do not recognize necessity of usage of ICT as a modern information and communication tool.

At the same time, regarding the communication aspect of Internet research shows rather low percentage of companies where computers have replaced the telephone as the major communicative device despite of all advantages of Internet communication against traditional telephone service. There is significant gap between actual state of ICT and Internet presence in companies and actual skills of employees in terms of usage and, in particular, their impression of what the current state is.

The rapid adoption of information and communication technologies (ICT) in business, and the objective of anticipating possible policy implications of this development, has triggered demand for real statistical information on the diffusion of ICT and Internet in companies and about related activities. ICT indicators can be grouped in many ways, but a basic distinction can be made between four broad areas of measurement: statistics on ICT investment, statistics on ICT investment, statistics on ICT use, statistics on ICT and Internet business impact; and in particular statistics on ICT education of employees, statistics on quality of ICT and Internet usage by employees⁹.

⁸ Source: SMEs in SE Europe Research Project, Tuzla, December 2005

⁹ Empirica Schriftenreihe, A Guide to ICT Usage Indicators, July 2005, p. 7

CONCLUSION

Employees' impression affects all aspect of ICT and Internet presence in companies. It is very important to plan presence, usage, business impact of ICT based on objective analyses. Still employees' impression is important because they are to be users of it. In order to lift users' impression on more realistic level it needs to be conducted broad and serious education of employees in terms of ICT and Internet usage.

Current state of the art shows that there is a serious gap between realistic parameters of ICT presence in companies and skills of users and their impression on it. The lower level of skills of employees' is the bigger gap between real state of the art and employees' perception is.

Planning of employees' skills in terms of ICT and Internet usage needs to be conducted by detailed plan as same as the implementation of information system in company is being conducted. Better knowledge and skills of employees will help making further development of ICT usage in company and its' impact on business performance of the company.

REFERENCES

1. Buchow H., David C., Eurostat Section Information Society Statistics, Geneva, 2003.
2. Commission of the European Communities, eInclusion revisited: The Local Dimension of the Information Society, Commission Staff Working Document, 2005
3. Deiss R., The EU surveys on ICT usage of enterprises, Eurostat, 2004.
4. Empirica Schriftenreihe, Guide to ICT Usage Indicators, 2005.
5. Internet World Stats, <http://www.internetworldstats.com/>, 2006.
6. Osmanbegović E., "Usage of Internet as relevant Source of Business Information in Terns of Support to SMEs", Master Report, Faculty of Economics, Tuzla, 2006.
7. SMEs in SE Europe Research Project, Tuzla, December 2005.

IMPLEMENTATION OF BALANCED SCORECARD APPLICATIONS

Milivoj Obradović, dip.ecc.

PhD Marina Dabić

PhD Mirjana Pejić Bach

1. INTRODUCTION

The market is mechanism for distinguish successful from unsuccessful. However, it is very hard to determine success. If we exclude for the moment traditional measuring of success such as profit the modern economy with global competitiveness, successful firm is one how can faster react on problems and catch the opportunity.

We can conclude that most successful firma are the fastest firm in right decisions. How became fastest? It was very often repeated phrase about importance of good informing. What does it really mean? How can firm reach good informing?

Balanced scorecard is one possible answer. Over the last decade there has been move toward a more balanced measurement process. Kaplan, Lowes and Norton developed the balanced scorecard system (BCS) (1996). The balanced scorecard is a method, which is defined as the “structured collection of indicators” which should empower management to steadily «navigate» the company and which has to be constituent part of reporting (Weber et.al., 2005). This method represents the integral management system, which encompasses financial and non-financial indicators, and connects them into the organization strategy with the goal of translating the strategy into actions aimed to increase organizations competitiveness. „Balanced Score carding“ concept became more disperse in our environment too. (Ravlić, 2002).

The balanced scorecard is important mechanism for planning, development, dissemination and business strategy implementation. It was introduced by Kaplan and Norton (1996, 2001, and 2004). The balanced scorecard seeks to assist business in clarifying their visions and strategies and provide them with a means by which they can be translated into action. The BSC is designed to link the data together in ways that produce better information and decisions across all levels of the organizations. The four perspectives of the BSC framework include:

- (1) Financial - which includes metrics such as cost benefit analysis and financial risk assessment
- (2) Internal business processes –how well your core processes produce value
- (3) People and knowledge- which seek to identify where employee training budget

can be best deployed with the goal of ensuring continued individual and corporate improvement

(4) Customer – This focuses on the analysis of customer satisfaction and different types of mechanisms for that.

The balance scorecard feasibility study showed that implementation of the method is barely possible without application of information technology (Kettunen et. al., 2005).

Introduction of such approach into firm's management is a project that origins from the firm's mission and establishing strategic goals, and it end with indicators at the practical level. However, this paper does not deal with the first phase of the project that defines mission and strategic goals.

BSC introduce and change existing methodology of tracking business indicators, and it has to become part of the regular day-to-day business. It's application is a process during which both firm and people learn and change goals and ways that they are tracked. World-wide business practice shows that it takes even several years in order to accomplish this goal, at least three years form the beginning of the project till it's successful implementation (Assiri et al., 2006). Implementation of information technology lasts few months. However, adjustment of the firm's strategy, goals and KPI (key performance indicators) takes mentioned few years.

This paper describes methodology and phase of information technology implementation of "Balanced scorecarding" (BSC) applications. Implementation of the scorecard application is the last final step in implementation of BSC methodology in the firm. Application enable all of the participants to focus on the firm's goals and to see in short time how they are accomplished.

During the phase of business preparation the system is set up, and during the phase of implementation it is organized with the information technology in order to become part of the information system of the firm. Like many other business projects (e.g. project of introduction of the automatic high-bay warehouse, organization of the sales and marketing activities, etc.) information technology can be implemented only after business preparation phase. The only difference is that in the implementation of the BSC information technology phase is not necessary if it is implemented a on a one-time basis.

2. PROJECT IMPLEMENTATION

Implementation relies on the project results of business definition BSC. It usually results in an incorporated target strategy and a KPI list (key performance indicators). Business implementation gives a framework/plan for the organization, attributes to KPI, means of measuring and calculating achievement and target capacity, competence, mutual influence and priority implementation. KPI's can be organized according to the functionality of the whole firm, business targets, and/or BSC perspectives.

Documentation normally consists of KPI books which is the main document accompanied by numerous additions from strategic maps to plans of the control “cockpit” (picture 1). The level of detail depends on the agreed scope of the project and the size of the company.

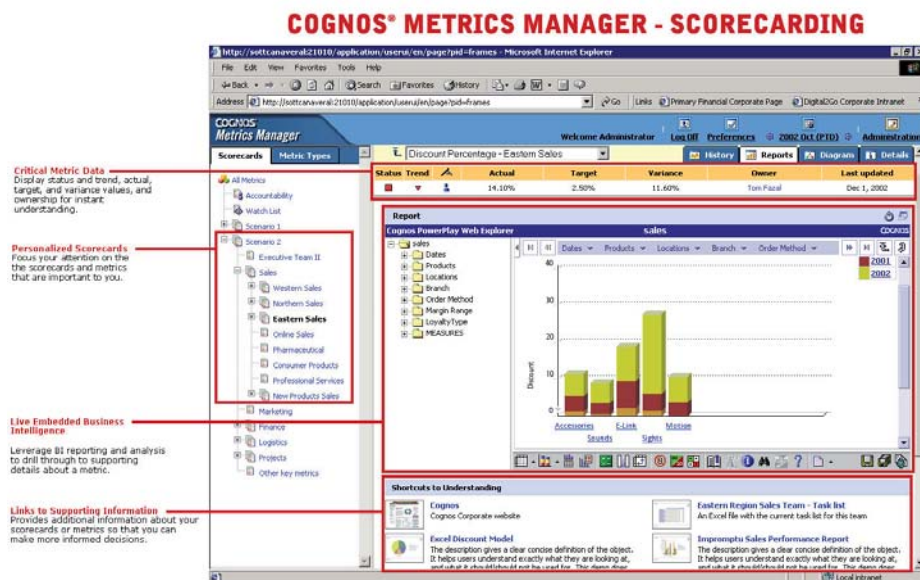


Figure 1. Balanced scorecard cockpit

(Available at http://www.cognos.com/products/scorecarding/scorecards/cmm_key_features.jpg)

3. PHASES/STAGES OF IMPLEMENTATION

Project implementation has 4 main phases/stages:

1. Planning
2. Design
3. Construction
4. Implementation/use

Each of the specified phases/stages of implementation has a pre-determined defined result. Target planning requires a well- prepared project with particular emphasis on entry/ input, participants and infrastructure. The design phase/stage results from a logical design application that is verified prior to implementation. In the construction phase/stage the application is created and put into production.

3.1. Planning

Three primary results are expected from this phase/stage: project organization, initial/ preliminary education, and infrastructure.

Project organization

The combined result of these phases/stages is the compliant document “project rules”/ “project organization” or similar, where the contents include the project plan, the list of participants and their roles, defines the means of communication on the project, risk management, project supervision and control markers and transfer/takeover. There are often people who specialize in differing fields in a project team, from members within the company to people from external consultancy houses; hence the initial/preliminary education of the team is good practice because it insures that all participants are on the same “wave-length”.

During the course of planning it is necessary to define the scope of the project. The number KPI is well-known, however it is important to evaluate/assess whether the project comprises the gathered formula elements. The amount of space for data/information sources/resources, means of taking record, number of system users in roles of securing data as well as the use of necessary exits/outputs (reports), are all elements which dictate the nature of the project.

For the scope of the project the following collective functional demands are also considered:

- Multilingualism – do terms and descriptions need to be in a multiple of languages
- Multi-currency – does the amount need to be expressed in parallel currencies, eg. Kn and eur
- Is a weighted indicator/ratio sought
- What type of graphic presentation and personal customization are necessary
- Is an automatic warning needed when values change

Education

Initial/preliminary education is internal in character, and introduces all members of the team to the way of working (methodology) and to the expected/anticipated results of all phases and tools (software) of the project.

Infrastructure

The 3rd exit/output is a recording of the information technology infrastructure with the defined demands for hardware, software and actions required for integrating with the already-existing it system (for example: user authenticity/authentication and so on).

Information technology implementation is required to meet the demands that are defined during preparation, and the most common are:

- (1) Application access via the web interface
- (2) Response in a number of seconds
- (3) Integrating with already-existing system reports
- (4) Authentication of existing system (the application must recognize the user without the added entering/registration of username and password)
- (5) Compatibility with existing information resources and it infrastructures.

To integrate with the existing report system can mean a number of things and with it can illuminate varying natures of the project. For example, a question is solved: if the achievement index/indicator is in red, how can someone who uses the application attain detailed reports and run an analysis simply and in a short space of time. The trend is that such information is available at the click of a mouse button. The required report is located at another portal, server or application, and here we have it when it comes to examining the integration with existing systems.

3.2. Design

In this phase/stage a number of key elements are elaborated:

- The definition of KPI on an operative level
- The organization of KPI and reporting requirements
- Mapping/charting data resources
- It infrastructure preparation

In the design phase the implementational attribute of KPI are completed/fulfilled. The implementational attributes are figures for the purpose of tracking targets and for the realization of KPI. Completion relies upon the prior establishments/findings/assertions of the business project and BSC methodology and starts from their documented results.

3.2.1. Definition of KPI on an operative level

The attributes of KPI, according to type, can be divided into descriptive, managerial and implementational attributes. Descriptive attributes are embedded into the application and serves as an uniform/unique/ definition of KPI.

Standard descriptive attributes

The following standard descriptive attributes are crucial for the development/expansion of the application:

- Indicator identification – a unique code is essential. If a company that uses a multiple of languages is concerned, for example when a company is under foreign ownership, the English term is (most commonly) defined.
- Responsibility for KPI – on implementation it is important to define who the “so-called” owner of the KPI is. Is it a department/service or a person? Is the responsibility of its realization implied? Who sets the targets with respect to the planned size? Who delivers the value for KPI? The identification of these roles will be of great help for the subsequent phase/stage of data-loading.
- Technical description – describes the formula for calculating the indicator/index as well as its elements. At the same time it would be good to mention what enters and what does not enter the calculation. Examples are: (number of days of education / total number of work days of all employed in sector x) x 100; (value of internal loss due to standstill / total profit); (number of wrong deliveries / total number of deliveries); (monthly sum of unpaid, but due outgoing receipts / total monthly debt) x 100. Here, caution is necessary because it is required that a precise technical description is given. For example, in the denominator of number of days, it is important to define whether they are working days or calendar days.
- Units of measurement – kn, eur, %, pieces, tones, days, etc.
- Derived KPI that can be the result of the influence of a number of other KPIs. It is possible to define a mutual or derived KPI in which every one individually has a given percentage of influence.

It is necessary to examine whether there exists the need for multilingual application. In this case, descriptive attributes need to be prepared in agreed languages. The application should perhaps support/sustain a simply definition and language change display.

Control attributes

Control attributes refer to the values of KPI. The basic/elementary values of KPI are: (1) targets/goals, (2) realized/attained values, (3) tolerance of deviations.

- (1) The target/goal is a value that is desired. That value is the measurement of a business goal. Frequently it is an existing planned size in a firm, particularly for

indicators of financial perspective. However, for many KPIs a set value target is, for example, the number of new customers, stake in the market, growth rate, average in the activities branch, and the like. Whether it is called a goal, a plan, or a target, is irrelevant. The more difficult aspect of the project lies in the fact that a company often has to still introduce targets, organize who sets them and with what value. This is precisely one of the reasons why the methodological process is applied. Required is time for objectively defining measurable targets. Determining planned values in firms exist for financial KPIs and partially for process. The project ensures that they are all determined. Whether the realization of it is good or bad, it doesn't just depend on the mere process of realization, but on the target that is set out. It appears simple and logical, but in business practice a great deal of knowledge and collaboration is required.

- (2) For achieved values, questions such as what information is included in the implementation of the BSC project are solved, as well as who is responsible for them in terms of designating and supplying. Here are a number of questions. Does the project implementation include formula elements or already-made values of KPI? Who delivers the data necessary for calculating indicators/indexes?
- (3) Deviation has a tolerant margin for information depending on whether the target is attained, not attained or exceeded. For a graphic presentation of a good and bad realization of a business target, it is also necessary to depict the results of a goal realization that falls within the given tolerated margins. Simply said – when it is yellow. For every KPI there is a given margin for tolerated deviation from the assigned target. The means of setting margins is defined – in an absolute value or as a percentage – and by how much it has deviated. KPI realization for a sales plan is considered accomplished when the realization of it is in +/- in relation to the target for a certain percentage. Every KPI has a different business reason for acceptable deviation. The realization of a sales plan, “reject” percentage or index of customer satisfaction has given targets and the deviation is varied. The set-up of tolerance regarding acceptable deviation can be a new practice in a firm.

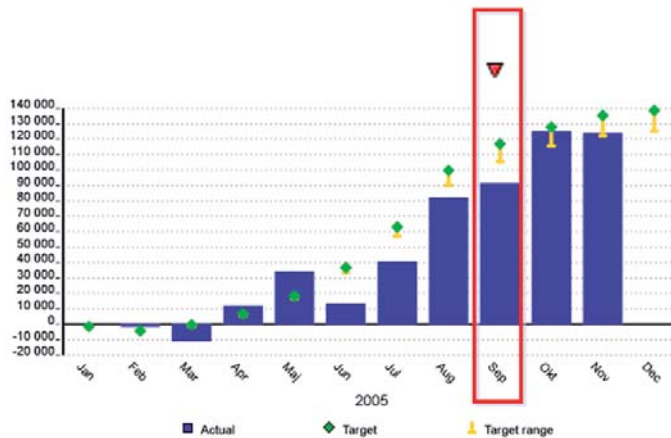


Figure 2. Softer „warning“ on deviation

Implementational attributes

Implementational attributes relate to KPI elements (if the project entails gathering elements) and most frequently are:

- (1) Tracking rate – monthly, quarterly or annually. On implementation of the functional scorecard, for applications that track the process through KPI, tracking is also possible daily or weekly. From the aspect of strategy tracking, KPIs do not need to be more detailed than on a monthly level.
- (2) Ways of tracking – it is necessary to establish whether the KPI is perceived cumulatively. Financial KPIs are often cumulative. For example, costs/expenses are tracked 1-n months and that is how the plan is then formulated.
- (3) Means of aggregation – indicators/indexes can be monthly, but they also have their quarterly and annual expectations. Is it then calculated separately or is it necessary in this phase/stage for it to be programme defined. If the KPI is a monthly, quarterly or annual sum or average of fulfilled expectations, or even if it is cumulative, then for annual fulfilled expectations the last realized result is the one that is considered (month 12).
- (4) Defining an acceptable span for KPI indicators – applicational support for BSC means using one of the designated/intended software tools. In them the realization is displayed graphically, semaphore/scoreboard/traffic lights showing green, yellow/amber and red states. Even more refined combinations are possible. The question is simple: when is it green, and when is it red? With KPI, for example, realizing profit based on what was planned and exceeding the target is obviously positive. Where costs/expenses are concerned it is the opposite. However, there arise situations where the outcome may not be clear to the party that is implementing hence the reason why this span for indicators is required. A simple example is realizing the planned number of workers/employees or the

number of days for education, which in varying business surroundings can carry different implications and can be treated differently. Despite rarely appearing in practice, there exist KPIs where the realization is positive only if the target is met. Everything above and below the target is deemed a negative result.

3.2.2. KPI organization and report requirements

In this sub-phase/sub-stage it is important to: (1) KPI arrangement/grouping, (2) impact analysis, (3) create strategic maps/charts.

- (1) KPI arrangement/grouping – the task of score carding applications provides a visualization of achieving targets and a timely alarm to signify the gap between the expected target and the realized target. KPI organization solves how KPIs should be arranged and presented to users. It is often done according to the functional organization of a firm, the organizational structure and according to BSC parameters. Users agree upon the main and additional views and a standard report list created.
- (2) Impact analysis – provides users with a simple and effective way of confirming what affected the realization of a particular KPI. With a simple click an overview can display influences on KPI and the success rate of reaching targets. The process of confirming what the causes of failed targets are is a valuable function for future applications. In order for this to be accomplished it is required then to document the mutual impact of KPI.
- (3) Strategic mapping is an acquired document that graphically presents strategies of a firm. With a little graphic preparation, in the application, KPI semaphores are combined with the targets. With a single glance, management has an oversight of the success of a company.

3.2.3. Mapping/charting information resources/sources

When KPI and its elements are operatively expanded/elaborated, then commences the task of confirming information resources/sources, the party that is supplying the information and the time in which it is delivered and the necessary manner in which the values that are supplied are prepared.

It is necessary to prepare documents with disclosed and specified information for every KPI and its elements.

The source of information can proceed from an existing database. In this case it is then required to establish the server, base, tables, and a person who will secure the connection. On the grounds of this information the loading of data is programmed in the construction phase/stage. This applies to only a segment of KPI.

A segment of KPI, let's say, the financial segment that deals with after-tax profit (ebit),

share of the market and others, is not attained directly from the database due to the fact that it is located in official documentation which is priority updated and validated by respective services/departments/agencies. The write-up of such documents is usually in the format of excel files that are prepared for other functions/purposes and cannot be used as a source of information for score carding applications. To prepare a supply of such information it is crucial to establish which person and service will be responsible for it, and only later when it comes to the process of construction will it answer the question whether the excel data will be dispatched or whether the information will be entered through the scorecarding application.

It is advisable to create an internal directive that supervises the people and time when the information is delivered. If the KPI consists elements, then it will be available only when the last element is delivered. Annual indicators are well-known even a few months before the end of the calendar year; let's say after the drawing up of the final accounts. Is there any point in the meantime to use provisional results – a dilemma which most certainly needs to be addressed when making decisions?

The organizational preparation if this information is crucial to the success of the project. Whether the means of measurement is feasible with regard to the realization of KPI is diagnosed in this phase/stage.

Problems will arise in KPI which are set up for the first time hence it is necessary to have past values prepared. Setting target values for dated/old information (for example of last year) where they previously did not exist, is impossible or too expensive so such target values are either simulated or not even activated.

3.2.4. It infrastructure preparation

Introducing the BSC application by rule demands a new it infrastructure, that is, hardware and software. Requirements according to hardware and software are addressed in the preparation phase/stage of the project and during the design phase/stage are installed and configured.

Hardware includes the server, whilst software includes the database where information is stored, web server, scorecarding software and software for entry and/or loading data.

An entirely prepared infrastructure is necessary already in the early phases/stages of the project for two reasons. First is that the project can be modularly put into use. Second is that during the course of construction the method of the created prototype is used. With users the given results are analysed, adapted and altered according to what is needed. If for each KPI there does not exist a target value then they can be simulated (for example, a preceding period increased by a certain percentage). If a tolerance span is not designated

for all KPIs they too can be simulated (for example, how does the result appear with a 5% tolerance margin, and how with a 10% tolerance margin). Essentially, user authentication is accomplished and a basic system of authorization is set up. The fact that crucial company information is in question, access rights must be implemented at the start.

3.2.5. Results of the design phase/stage

The basic delivery of the phases/stages is a complete documentation of everything which includes KPI attributes for introduction, establishing sources of information, KPI presentation and a ready technical foundation for construction. The implementation of BSC requires a specified form of documentation.

Verification of these documents is the checkpoint between the client and the project team.

It is important to reiterate that, here, the sequence of steps in the project phases/stages are not mentioned. In practice it is completely normal to return and address previous agreements and documents, change them and add to them, that is, change and add KPIs and their attributes. That will possibly or in fact probably be in the next phases/stages. That is the strategical procedure in practice. However, this is a way to save on time and reduce the level of risk, just as how one can build a house with and without all permits/licenses, executive outlines and bill of expenses.

3.3. Construction

Application is accomplished in this phase/stage. Construction works include:

- (1) Data storage/warehousing design and creation of the procedure for loading data (etl process)
- (2) Creation of scorecarding application
- (3) Testing

Required it specialists

In this field specialists do the work hence their knowledge is not necessary to illustrate in detail. From the organizational perspective, it is necessary for a firm to secure the participation of it specialists for the purpose of integration with the existing it system. They are administrators of databases and system administrators and their engagement is defined in the first phase/stage – project planning.

Prototyping and managing changes

Including the user is desired already at the first phase/stage. Using the method of

prototyping means that changes will be made. It is important to assess how relevant it is to register change. For example, a user requires that KPI is in thousands because it is “like that today”, or that in writing it is better use another term for KPI, or it is established that the number and the denominator are supplied in varying units of measurement. In this job participate people who know the operatives/operation. Whether you will make a change on the spur of the moment (the project end is nearing) without informing the manager and without change to the design documentation, is a decision left to the project leader if there is not an alternative set up for the project organization.

From the users perspective the result of this phase/stage is the scorecarding application. And then arises the important and not-so-simple activity: testing, testing, testing.

Testing

Testing is the joint task of it and business participants. For testing a plan must be made and a designated period of time must be secured. Communication feedback is exceptionally important and after confirmed notice and rectifications testing must be repeated. It is necessary to test even the cases which do not appear in the loaded data. For example, if you have 6 months of data, in any case, it should be tested for its annual worth. Therefore, information must be simulated, then to follow it should all be emptied, and then once more reassembled and loaded. And then again check that everything is how it should be. And then secure records of testing.

3.4. Implementation/use

Use or final activity for production include:

- (1) User training/education
- (2) Final adaptations
- (3) Maintenance plan and education for people who will maintain the system
- (4) Project conclusion/verdict which includes transfer

The means of transfer/transaction and the relevant documents are determined in the planning phase/stage, which is particularly important if the project contract is with external partners/associates.

4. CONCLUSION

In almost every organisation there is a gap between ambition and reality, In other words a gap between formulated goals and their realisation. One of the ways to start solving them is to implement the balanced score methodology. However, we have to admit there are still a huge number of challenges related mostly to indicators such as: what exactly KPI is, what makes it as useful as engine, what account methodology has to be used, accepted level of

tolerance is vague, data owners are unclear and source of data is not precise enough.

By implementation project which also encompasses the information solution, BSC methodology is brought to work places in a company with the aim of becoming a part of daily business practice. The monitoring of indicators especially of those relevant for strategy implementation is partly a new trend in a firm and sometimes demands keeping of new records or a change of the details of the existing practice. It is a success when practical application becomes reality. We have admitted that unsuccessful implementation happens sometimes but it is still a bigger failure if there is no attempt of implementation at all.

LITERATURE

1. Assiri, A., Zairi, M., Eid, R. (2006). How to profit from the balanced scorecard: An implementation roadmap. *Industrial Management & Data Systems*; Volume: 106 Issue: 7, 937 – 952.
2. Kaplan, R.; Lowes, A.; Norton, D.P. (1996) : *Balanced Scorecard: Translating Strategy into Action*, Watertown, MA: Harvard Business School Press.
3. Kaplan, R.; Norton, D. *Strategy Maps*. Boston, MA: Harvard Business School Press, 2004.
4. Kaplan, R.; Norton, D. *The Balanced Scorecard*. Boston, MA: Harvard Business School Press, 1996.
5. Kaplan, R.; Norton, D. *The Strategy-focused Organisation*. Boston, MA: Harvard Business School Press, 2001.
6. Kettunen, J.; Kantola, I. Management information system based on the balanced scorecard. // *Campus-Wide Information Systems*. 5, 22(2005), p. 263-274.
7. Ravlić, S. (2002). Primjena koncepta Balanced Scorecard u Ericsson Nikoli Tesli. 4. Hrvatska konferencija o kvaliteti. Available at: <http://kvaliteta.inet.hr/e%2Dquality/prethodni/8/>
8. Weber J.; Schaier S.; Strangfeld O. *Berichte für das Top-Management: Ergebnisse einer Benchmarking – Studie*. Weinheim: Wiley-VCH, 2005.

KNOWLEDGE MANAGEMENT

INTELLECTUAL CAPITAL AND HUMAN RESOURCE MANAGEMENT

Ljiljana Drenški Cvrtila

Silvana Fratrić Kuna

POSTGRADUATE STUDIES

ORGANISATION AND MANAGEMENT

1 INTRODUCTION

...Key challenge of the 21st century is to define, manage, improve and evaluate knowledge and its economically relevant form of manifestation, intellectual capital...

(Priručnik za upravljanje intelektualnim kapitalom, 2004, pg 2)

Organizational value is mostly defined through its material assets and financial power. However, various experiences nowadays demonstrate that these two elements are merely sufficient in order to audit the real value of an organization, let alone its stability, potential development, and evaluation of its economic growth. Success or failure of an organization goes much deeper than that.

There is a completely new economic category currently in the world, called intellectual capital.

More and more often in professional debates or publications one can read about or hear the term *knowledge* or *knowledge management* as a key factor of economic growth. *Intellectual capital* goes hand in hand with the terms mentioned above.

Ante Pulić and Dragomir Sundać, our authors who have dealt with the issue of knowledge management and intellectual capital consider our theoretical and practical dedication to this topic negligible, i.e. there is so little known about it, one cannot appreciate its importance.

They also emphasize intellectual capital as one of the basis of new economic science.

So, what is the difference between the so called old and the new economy?

Physical and financial capital represents the key features of industrial economy, while in the modern world of business the adjustable and the intangible stand for new values. Capital is intangible. Its indicators are image, brand names, tradition, customer relations, partnership, experience and business skills, along with knowledge and abilities of an employee. In comparison to traditional and tangible indicators, these set up more new

values today.

Knowledge of an employee, their professional experience, creativeness, ideas, innovation, motivation, readiness for team work enriches organizational culture and improves processes within an organization. The most valuable part of modern organizations often becomes “invisible” to the existent accounting benchmark. Due to the difficulty of its noticing and measuring, a number of organizations do not pay attention to this part of their values.

Modern organizations tend to relate the knowledge of their employees with their financial results. This is how one gets to the term of *intellectual capital* which refers to overall intellectual assets and intellectual potential which a company uses to create new values. It presents accrued knowledge, which an organization owns in its employees, methodologies, patents, designs and relations.

Knowledge and intellectual capital form continual resources in providing competitive advantage in the new world of business.

2 DEVELOPMENT OF INTELLECTUAL CAPITAL THEORY

The concept of intellectual capital was developed in the early nineties of the last century, although it had been mentioned before. Nevertheless, the references to it as a new economic theory have come up only in the last few years.

In 1991 Thomas A. Stewart, editor of “Fortune” magazine (the most famous American economy magazine), caused a revolution in the examination of intellectual capital after he had issued an article “Brainpower – How Intellectual Capital Is Becoming America’s most Valuable Asset”. The article caused great interest and encouraged the development of Intellectual Capital Theory.

The Swedish are regarded as the ones who made an important step towards developing conception of intellectual capital from the aspect of human capital, thus one can talk about the “Swedish School” of knowledge management and intellectual capital research.

Karl – Erik Sveiby, the founding father who first recognized the need to measure human capital, which is the fundamental element of intellectual capital, and tried to introduce its accounting monitoring. He had suggested a theory to measure knowledge management, which was adopted by numerous Swedish companies.

Leif Edvinsson is one of the most famous economists inspired by Sveiby’s works. His great contribution consists in the development of a model for managing intellectual capital in a company, i.e. its definition and display of intangible assets or “hidden values”. Edvinsson works as a professor of Intellectual Capital and Knowledge Economy at the University of Lund in Sweden. (Kolaković, 2003)

“Corporate longitude” is one of his books translated in Croatian. He had been working at a famous Swedish insurance company Skandia for years and is considered to be the first director of intellectual capital in the world. He had developed the tool for knowledge innovation, a model that can estimate the value of intellectual capital which he called “Navigator”. Together with his coworkers he founded the Skandia future center in the idyllic Stockholm archipelago, turning a traditional Swedish villa into a “place of intellectual capital growth”, a temple of knowledge that ties the past, the present and the future, and colors, odors, sounds and visual effects stimulate all the senses. (Edvinsson, 2003) This sort of surrounding is considered to be extremely stimulating in creating the basic resources of the 21st century – knowledge, imagination and innovation.

In 1997 he published “Intellectual Capital”.

Thanks to his fructuous research work, the British Brain Trust has awarded him the brain of the year in 1998.

At the beginning of 2000 he estimated the value of the Scandia capital.

In his book “Corporate Longitude” he warns against loosing the guidelines, and frailty of modern, mostly traditional economic practice and knowledge. He finds contemporary “business madness” lacking the long-term focus, because it is exceedingly aimed at short-term material benefits. He calls himself “a global knowledge nomad” and the current world economy is based on knowledge. (Edvinsson, 2003)

3 INTELLECTUAL CAPITAL DEFINITION

Thomas Stewart, editor of “Fortune” weekly business magazine and author of the renowned Leading Edge column has described it as “Something that cannot be touched, but can slowly make one rich”.

Scientific literature uses the term “Intellectual Capital” as a synonym for intangible assets (intangible factors of doing business) of the company that has significant influence on business efficiency, but is not explicitly set out in balances (perhaps under the term of goodwill).

(Priručnik za upravljanje intelektualnim kapitalom, 2004)

Of course, as there are various models and ways of measuring intellectual capital, there are also various definitions:

Some of them originated in the last decade:

- Intellectual capital is a sum of an organization’s overall knowledge, experiences, competences, abilities and skills on how to achieve greater results, provide better service or create other intangible values of an organization;
- Intellectual capital represents knowledge within an organization and which can be used in the creation of competitive advantages – in other words, it is a sum of everything employees know and that makes competitive advantages of an

organization clearer;

- Intellectual capital represents the knowledge that can be turned into profit;

By defining intellectual capital, authors try to emphasize the difference between knowledge and intellectual capital. Intellectual capital actually represents knowledge, but it would only turn into the intellectual capital of a company when it transforms into something valuable for the company and its clients. If this process does not become a realization, knowledge remains only an idle intellectual potential. (Kolaković, 2003)

Knowledge is often referred to as in two following ways:

1. Explicit or material in a form of layouts, drafts, patents, licenses, data bases, manuals, rules of conduct, corporative standards, computer programmes, etc. (explicit knowledge)
2. Implicit or immaterial, usually in the heads of people employed (knowledge, visions, competence, problem solving, leadership, culture, experience, etc.), hidden knowledge. (Tacit knowledge)

The aim of every organization is to change tacit, hidden, immaterial knowledge into material and explicit one, which then becomes capital and represents company's belongings and therefore cannot be taken away from it. Therefore, intellectual capital is not knowledge in itself, but intellectual sources which are shaped, preserved and enriched to create more valuable goods. (Priručniku za upravljanje intelektualnim kapitalom, 2004)

Intellectual capital can be realized through:

- a) Innovations and new knowledge creation
 - b) The appliance of current knowledge on current issues and problems in order to help employees and clients
 - c) Knowledge packing, processing and transfer
 - d) Acquiring current knowledge which results from research and learning
- (Edvinsson, 2003)

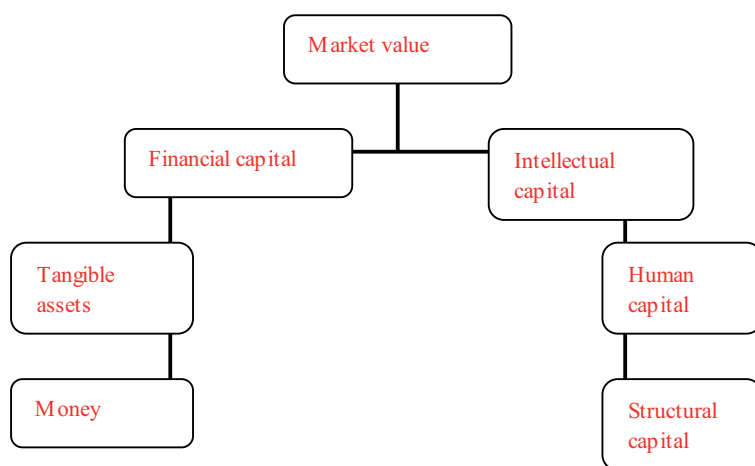


Figure 1 Market value structure (Priručnik za upravljanje intelektualnim kapitalom, 2004)

4. INTELLECTUAL CAPITAL MODEL

There are different models and divisions of intellectual capital, the most famous today being the one Leif Edvinsson.

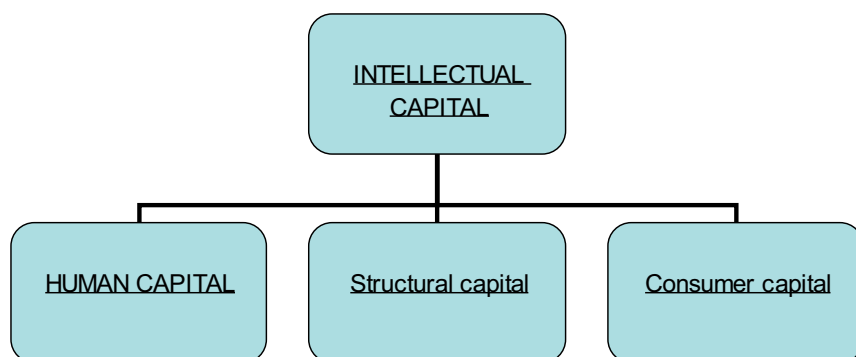


Figure 2 Elements of intellectual capital

According to his model intellectual capital consists in three main elements:

1. Human capital
2. Structural capital
3. Consumer capital

Human capital represents knowledge, intelligence, skills and accrued experience of people. Besides knowledge, it includes motivation, readiness for teamwork, cooperation, risk readiness and adaptability to changes, along with loyalty towards an organization.

Structural capital represents the ability of an organization to apply the innovative and intellectual potential of its employees. It is a result of the human capital transformation, and includes organizational structures, routines, business processes, data bases, systems, intellectual ownership (patents, licenses, etc.).

Structural capital consists in every immaterial factor that stays within an organization when the employees leave their positions at the end of a working day, and that hugely contribute to business success. It represents knowledge recipes whose value might increase for the benefit of an organization.

Consumer capital comprises relations with clients, suppliers and distributors, and is a result of company's synergy with the rest of its surrounding environment. It also includes image, brand names, and market identity.

According to this model, all three elements mentioned above can be measured and evaluated for investments. That is why today the model is used as the standard and basis for future studies.

Although the awareness of the existence and importance of intellectual capital increases every day, for most organizations it is still perceived as an immeasurable item.

However, the Swedish company "Skandia" has made another step in sense of measuring.

Namely, for over years now "Skandia" has been adding to its financial statements a statement about the intellectual capital of the company, in order to give an insight on the potential and the strength of the company to its investors. As indicated above, Leif Edvinsson developed the "Navigator", a model of intellectual capital monitoring.

The first annual intellectual capital statement was completed in 1994 and internally published in the company only to become public in 1995. (Ljubetić, 2005)

It was calculated that by the beginning of 2000 the intellectual capital of Skandia was \$15 million worth. (Edvinsson, 2003)

By means of Skandia's market value scheme it is possible to analyze the role of every single element intellectual capital consists of.

Figure 3 shows the scheme of values of the intellectual capital of “Skandia” financial company.

(Edvinsson, 2003)

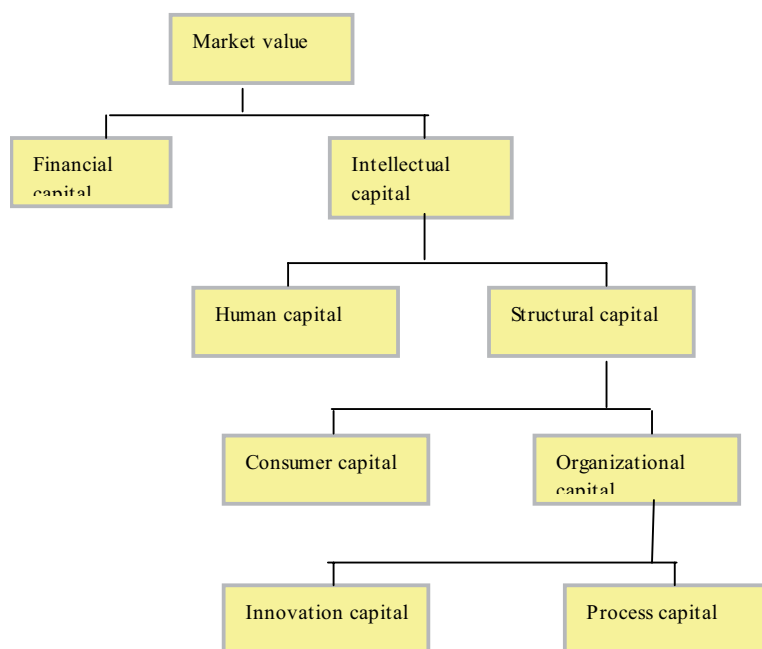


Figure 3 Intellectual capital value scheme

“Skandia’s IK Navigator” - a scheme of market value that consists in five units of value making. Every unit is focused on one point of interest: financial, client based, focus restoration and development, and the context of an environment (Ljubetić 2005, Edvinsson 2003)

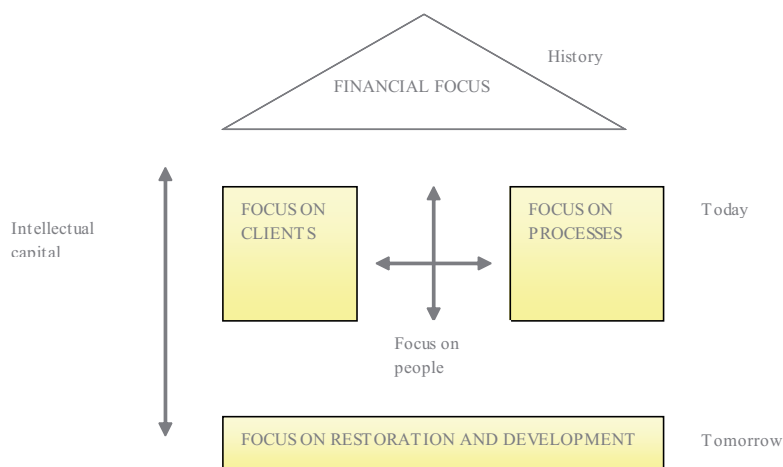


Figure 4 Model of intellectual capital measuring (Skandia IK Navigator)

“Unlike traditional accounting, intellectual capital as being shown by the Navigator, represents a three-dimensional compass to determine a course according to what follows tomorrow, but also a tool by which one can display a map of what happened yesterday.

Navigator is a multifunctional tool for managing that provides support for planning, management and acquisition of extra information. It can also be used as a tool that can diagnose overheating, fatigue, stress or illness within a corporate body (and individual bodies as well). Navigator helps us understand that intellectual capital is not only a means of estimating the value of intangible assets, but an active process of creating values. Certain series of projects, not knowledge storage. A course.”

(Edvinsson, 2003, pg 128)

Furthermore, Edvinsson says that business analyses made by financial analysts and accountants resemble the old maps from marine museums, and thanks to them modern corporations do business and determine their values through one and one dimension only: financial capital.

It is important to notice that there are various models of the intellectual capital categorization as well as the models of measurement of its effectiveness. All these aim at helping with the classification of immaterial business factors in order to manage them in

an easier way.

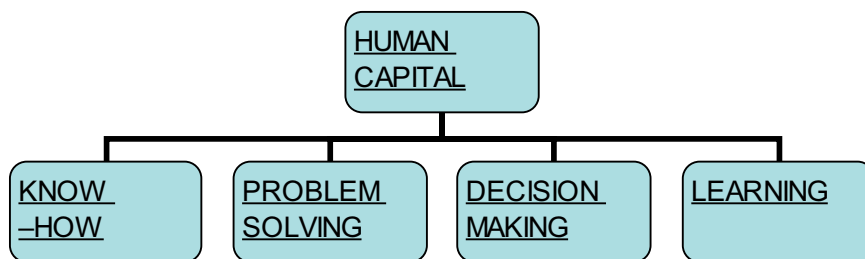
Other investigators' models in many cases look alike.

Human capital always consists of competences, skills and experiences of employees, because they are the integral part of people and cannot be owned by organizations.

5 HUMAN CAPITAL

Human capital is considered to be the most important part of intellectual capital, i.e. it is preliminary to other elements of intellectual capital.

Human capital consists in knowledge, skills, abilities and experience of those employed in an organization. Some authors say elements of intellectual capital are as followed:



(Robinson, Kleiner, 1996, pg 36)

Structural capital is a consequence of the interaction and the efficiency of these elements. In order to transform human capital into structural capital, i.e. organizational processes, data bases, documents, patents, innovations, new technologies, it is necessary to work out the efficient methodology of the transfer of individual knowledge into knowledge that will be at disposal of an entire organization and increase its value. At the same time, it is necessary to create an environment and build conditions in which people would want to offer their own intellectual potential at company's disposal, and set up an atmosphere in which the development of that potential will become personal and organizational need. This kind of employees is sometimes referred to as "knowledge employees" and can have extreme economic power because they:

- Possess knowledge and abilities
- Monitor and control themselves
- Manage their own relationships and networks
- Solve problems on their own, remove obstacles and create new possibilities and business opportunities. (Bahtijarević Šiber, 1999)

6 ROLE OF HUMAN RESOURCE MANAGEMENT IN MANAGING HUMAN CAPITAL

A business function that deals with human resource managing has an important role and a range of possibilities by which it can influence and increase the value of human potential of an organization. It can introduce a series of changes in every domain it deals with, for which modern research and practice have shown that these can contribute to the growth of human capital, and by this both structural and intellectual capital. Following are the suggestions that cover only three domains of the human resource managing, although possibilities are far greater than this:

6.1 Selection according to skills, knowledge and talents.

The first step towards the augmentation of human potential of a company is a selection of the candidates for positions. It is in interest of every organization to gain as bigger potential as possible at the beginning, i.e. to employ from the start the people who possess a high level of intellectual capital or at least a high potential for its development.

Based on extensive studies, both with the experience of top managers, the Gallup institute has offered a modern conception and a view on a selection of staff, that provides the opportunity for the increase of the value of s in a company. The starting point of this view is that: "People do not change a lot. Do not waste your time trying to compensate for what is missing. Try to get from people what they have inside themselves. This is hard enough." (Buckingham, Coffman, 2004, pg 70) The assumption itself is a consequence of the intense psychological and neurological studies carried out in the last decade.

By analyzing more than 150 different roles in a process of work, Gallup's experts came to a conclusion that the quality of certain task on a certain working position depends upon three factors: skills, knowledge and talent. Skills and knowledge can be easily acquired, unlike talents. It is usually easy to determine which skills and knowledge are necessary for a certain position and in what way they can be achieved. To discover talents people have and adapt them according to their current position, so that they can be manifested i.e. used in the best way possible, is a far more complex process. Only people who can use their talents to a maximum at their working position represent significant human capital for a company.

A talent is "an inexhaustible pattern of thoughts, emotions or behaviors that can be applied in a productive way – or to simplify – behaviors that we often practice. (Buckingham, Coffman, 2004)

Talent analyses have shown that there are three major categories:

- a) Talents to tend– in which way a person gets motivated, why they do something
- b) Talents for human relations – in which way a person establishes human relations
- c) Talents to think– in which way a person thinks, makes decisions, is disciplined or concentrated.

The process of selection should not be concentrated exclusively on what one can or is able to do, but to determine and take into consideration those talents that will be used in a way that will contribute to the augmentation of the intellectual capital of an organization.

6.2 Creating Meaningful Working Places and Working Environment

The experiment that was carried out between 1927 and 1932 in the Hawthorne factory of Western Electric company in Illinois, and which tried to identify the influence of immediate working environment on productivity, is probably the most famous and most cited one. The conclusions of the studies supported the fact that more than the physical environment, productivity is influenced by attitudes, perception and emotions of the people engaged in the experiment. Regardless changes in the working conditions, the productivity was increasing, both in the experimental and the control groups. The employees gave a clear answer to this – this was the first time that the management had shown its interest for them and asked them for an opinion. Nevertheless, despite those and many other useful findings of the experiment, companies continued to work as before. “This is a disaster, from a personal, intellectual and organizational perspective. The price of possibilities in offices is huge. Culture and values are manifested in the worlds of business we create. And to think of the disastrous businesses we still continue to make.” (Edvinsson, 2003, pg 173)

Even today most companies treat their employees as parts of a machine that are controlled by managers and replaceable. Besides being unproductive and making business boring, it also demonstrates how human capital gets wasted.

Working space itself, i.e. an office is perceived as a current reflection of the balance of forces between a company and employees. They are thus often redesigned, intention changing, with different people sitting at their desks, and the space itself is featureless and with no personality whatsoever. It is a problem, sometimes unsolvable, how to decorate offices in order to make them adequate for both teamwork and needs of individual, quiet work. It has been considered that modern business activities should be distanced from the classic concept of an office (“that has long history of oppressing pleasure, creativity and fulfillment”, Edvinsson, 2003), and try to shape working spaces that could be adapted to the needs of both interaction and teamwork and the needs of a worker who would like to work on their own.

Govindarajan and Gupta, two American academics, studied social environments which would have been essential for efficient knowledge managing. Although it was shown that setting of demanding goals, providing initiative, participation in managing and the possibility of investigating and experimenting were important factors, their conclusion

was a concrete one – the most efficient working environment is the one that offers its employees some meaning. It is in the human nature to look for meaning. They want to feel like they belong to an organization, that their talents and efforts are noticed and appreciated along with the value of work they do, no matter their working position. (Edvinsson, 2003)

6.3 Creating an efficient educational system for employees

Even in the companies which have not established an evaluation and increase of intellectual capital system, it is absolutely clear that current market conditions, globalization, technology development and almost exponential knowledge growth demand a working force that will be able to follow the trends mentioned. It is therefore that budgets for education are getting bigger and bigger every year. At the same time, companies ask themselves whether this investment in education provides value for money. Although some research shows that the money invested in trainings and education pays off many times over, modern critics of “classic” organizational education regard education, by which one wants to overcome defects and weaknesses of those employed, as a waste of time and money. The approach based on workers’ competences does not lead to desirable results because it starts off with the wrong assumptions:

- Those who are excellent at their working places, act the same.
- All of these behaviors can be learnt.
- By learning these behaviors one can overcome weaknesses and become successful (Buckingham, 2001)

What is actually correct is that one does not have to achieve excellent results in the same way, and that people use different ways to become excellent in a role they take. Likewise, the behaviors which are opposite to their personality are learnt in a hard way. (It is unlikely for introvert people to become excellent in public performances). Taking this into consideration, a new concept of organizational education has been suggested, that focuses on learning and not training. Training suggests implementing “a frame” into people, whereas people develop inside out – therefore, they achieve their individual potential, the one they are able to achieve.

On the other hand, learning presupposes people who initiate their development on their own, through relevant experiences which are above skills, knowledge and processes – broadening the idea about the individual development of beliefs, values, wisdom, compassion, emotional maturity, ethics and real integrity. When you help people develop as people, a platform is created together with the readiness to develop knowledge and skills which your organization will ever need. Of course, basic skills and knowledge a company needs should not be ignored but trained. So, one should train basic skills and knowledge and then focus on learning and developing of a person, especially the areas comprising emotional intelligence. It is because of good emotional maturity and integrity, which

together provide self-discipline, correct opinion and action, that a company does business well. Empathy helps tolerance, understanding, better communication and teamwork.

Skills and knowledge are simple things. Most people take care of them by themselves. To help and enable people to become happier, fulfilled is what employees and an organization should focus upon, and skills and knowledge will be easily acquired because of the working place requisites. People should be given a choice – what, where, when and how to learn. People have different styles, possibilities of learning, and scopes of interest. They should be helped to learn and develop the way in which they will so that they become more positive, productive and valuable for an organization in a natural way. Organization should want people who will do what they are good and enjoy at. Only then will they be able to develop their total potential and will represent a valuable human potential for an organization. (www.businessball.com)

6.4. Establishing a system of direct knowledge exchange within an organization

There are few ways of direct exchange of knowledge within an organization, some of which are: mentorship, internal training, multifunctional teams, knowledge-events, forums, informal discussions. A choice depends on interests and needs of an organization.

Mentorship is probably one of the oldest and most frequently used ways. Donald O. Clifton studied the data which included about 800 people who were evaluated as efficient leaders and mentors. He identifies 6 basic steps in mentorship. In a nutshell:

1. Mentorship is building of relations.
2. Mentors have to believe they can offer something important to those they are mentors to.
3. Mentors have to show genuine concern for their people.
4. Discussions and help in goal setting and achievement are the key in developing a mentored person.
5. Mentors should listen every time their people want to talk.
6. Mentors should do everything in order to establish and maintain the trust of the people they work with.

(Clifton, 2003)

From above it is clear that an efficient knowledge exchange can be conducted in a relationship that presupposes caring and trust, i.e. this relationship and the way one transfers their knowledge is more important than the total knowledge of a mentor.

Internal training is also among the most frequent ways of knowledge exchange in companies. Internal trainers are people with significant experience and skill knowledge that are necessary for certain working places. Training helps increase the quality of work

done, clients' satisfaction, improvement of managerial skills, and is especially valuable to young employees who have just started to work. In order for an internal training to be successful, it is not necessary for a trainer to have knowledge, but to know how to transfer it. Trainers often undergo special trainer trainings before educations.

Multifunctional teams are usually formed to conduct a project. They are made of experts in various specific areas, and taking into account the synergetic achievement of teams, they can be generators of knowledge that would significantly increase the value of structural capital of a company. They can think of new ideas, innovations, business processes, new strategies and business policies. The problem is that most of organizations employ experts in various working places, in which everyone does its narrow part of work, but a small number of them is aware of the potential a team made of these experts have, only under different circumstances and with different demands.

The so called **"knowledge events"** are usually one-time events whose goal is to exchange experts' knowledge including those interested in certain fields. They can be organized within a company, but also supplied by external experts. They are mostly organized to improve already existing product or service or develop a new one. Sometimes it uses brainstorming in order to stimulate a creative way of thinking.

Forums can be organized on intranet and make it possible for all employees to give an opinion and suggestions about an issue or a subject matter. It often happens that people who are no experts in a field propose valuable solutions because of their impartiality which makes them see the issue from a different perspective.

Informal discussions had once been considered as a waste of time. Today intelligent organizations can recognize the value of informal discussions, so that the old one - "Stop talking and get to work" might be substituted by "Start talking and get to work". This kind of practice is referred to in Japan as "nomu" which means to drink, and the whole word formation stands for an informal talk that usually comes with a drink. Some companies in Japan encourage these kinds of communication, because they have noticed some can result in a series of creative and innovative ideas, and the largest contribution is actual human relations development. (Nördstrom, Riderstråle, 2002)

Everything mentioned above represents only a small part of possibilities managers can apply in managing human resources. Application of any one of them will represent a contribution in development of human capital, but other fields, in this scope of work, should not therefore be neglected. One should definitely pay attention to:

- Creating a motivating climate by:
 - Award encouraging system
 - Encouraging culture innovation

- Encouraging constructive human relations
- Creating a system for career management
- Creating a system for internal communication management

Possibilities are vast and full of hidden potential, and an intelligent organization will know how to turn this into tangible capital.

CONCLUSION

New knowledge economy entails the need of great changes within functioning of an organization, together with the need to appreciate and value knowledge in a society. Nowadays business is based more on immaterial, intangible and therefore often hidden assets. These are in the heads of employees, organizational processes and relations, and there are numerous methods developed by which they could be measured.

This approach, together with the practice, is still insufficiently known not only in Croatia, and in the world, although it seems to spread and develop more.

Physical capital, physical work and financial capital are not any longer dominating resources, as they were until now in traditional theories of economy, today there are knowledge, creativeness, and talent.

Thereat the role of physical capital in market value assessment is not nor irrelevant nor nullified, but significantly reduced.

The theory of intellectual capital has become one of the most important theories of the new economy by setting new issues, encouraging many experts to investigate and as it seems, demanding a multifunctional approach to any problem. Economic experts would not be the only one to deal with it, but also many others – sociologists, psychologists, politicians, educational experts, those who create country policies, and even those who do art.

Adopting the concept of intellectual capital in an organization provides a possibility of attaching financial value to knowledge that is to say of turning abstract goods into sources of wealth multiplying human capital by the structural.

One of the basic features of intellectual capital is its intangibility and lack of obvious financial value. The most famous model is made by Leif Edvinsson, whereby it is possible to measure and evaluate all three elements of human capital.

In order for an organization to manage intellectual capital, this concept should be incorporated in all of its segments. Departments for human resource management should have the most important role in the whole process, since managing human resources supposes managing human capital that is hidden in the potential.

Considering recent scientific studies, people in working environment and experiences

of those who have already made a significant progress in using human capital, human resource managers can undertake a series of steps in order to capitalize this same potential.

Here a question arises: Is intellectual capital going to become the most important substance in the entire economy? *Thus, key challenge of the 21st century is to define, manage, improve and evaluate knowledge and its economically relevant form of manifestation, intellectual capital...*

(Priručnik za upravljanje intelektualnim kapitalom, 2004, pg 2)

SUMMARY

The theory of intellectual capital is included among the most important economic theories. It is based on the fact that the tangible assets of contemporary organizations which are successful have less value than the intangible ones. Intellectual capital and knowledge are permanent resources in making provisions for a competitive advantage in modern business.

Intellectual capital represents a combination of human capital - knowledge, intelligence, skills and potential of an employee, structural capital and consumer capital.

Human capital is an important element of intellectual capital. Possibilities and ways of managing human capital are huge, and one can find the majority of them in human resources department. In order to manage human capital so that it is more efficiently used and increased, such departments should change their old fashioned concepts and base their business processes upon modern research and new knowledge about behavior in a working environment.

It is possible to apply new approaches already at the stage of the procedure of selection, in creating working environments, in the process of education and development of employees, also in many other aspects of human resource managing.

KEY WORDS: New economy, knowledge, intellectual capital, human capital, human resource management

REFERENCES

BOOKS

Bahtijarević Šiber, Fikreta: Menadžment ljudskih potencijala, Golden Marketing, Zagreb, 1999.

Buckingham, M., Coffman, C. : Što najbolji svjetski menadžeri rade drukčije, The Gallup Organization, Masmedia, Zagreb, 2004.

Edvinsson, Leif: Korporacijska longituda – Navigacija ekonomijom znanja, Differo, Zagreb, 2003.

Nördstrom, K., Riderstråle, J. : Funnky business – kapital pleše samo s darovitima, Differo, Zagreb, 2002.

Pulić, A., Sundać D.: Intelektualni kapital – ključni resurs 21. stoljeća, International Business Consulting Center, Rijeka, 2001.

OTHER

Buckingham, Marcus. Don't waste time and money, Gallup Management Journal, <http://gmj.gallup.com> (16.11.2005.)

Clifton, O. Donald: The Basics of Mentoring – Six steps to building succesful developmental relationships, Gallup Management Journal, 2003., <http://gmj.gallup.com> (12.12.2005.)

Kolaković, Marko: Teorija intelektualnog kapitala, Ekonomski pregled 54, 11-12; 925 – 924, 2003.

Ljubetić, Višnja: Upravljanje znanjem primjenom alata poslovne inteligencije, magistarski rad, Ekonomski fakultet Zagreb, 2005.

Priručnik za upravljanje intelektualnim kapitalom u tvrtkama, Hrvatska gospodarska komora, Zajednica za unapređivanje intelektualnog kapitala, Zagreb, 2004.

Robinson, G., Kleiner, B.H. : How to measure an organization's intellectual capital, Managerial Auditing Journal 11/8, 1996., p. 36-39

Šimunić, Zoran: Značaj duhovnog kapitala za vrijednost tvrtke, Koraci, Godina II, broj 5, 2002. www.businessball.com

COMPUTER APPLICATION IN STATISTICAL ANALYSIS OF THE INFLUENCE OF EDUCATION LEVEL ON THE PERCEPTION OF ECONOMIC AND SOCIAL ISSUES

Gordana Dukić, D.Sc., Darko Dukić, D.Sc.

ABACUS tuition, research and business consultancy, Osijek

Ivana Alerić, student

Faculty of Economics in Osijek

ABSTRACT

Several past decades have witnessed a significant increase in public awareness regarding the need for education and investing into knowledge. Highly developed economies of today have based their prosperity precisely on these prerequisites. Intensive development of science and technology and rapid expansion of tertiary sector have reflected also on comprehensive changes of the education system. In such circumstances, education has become imperative for all individuals trying to enhance their social and economic status. The level of education has thus become a very sensitive category which is significantly reflected on the perception of members of any given community. This paper aims to determine in what way the education level influences an individual's assessment of own economic and social position. To carry out this research, an adequate sample of employees living in the Osijek-Baranja County was formed. The analysis of the stated questions required significant use of the statistical method (calculating descriptive statistics, factor analysis, analysis of variance and discriminant analysis). A relatively large number of variables included in the model necessitated using a computer and adequate software. One of the goals was also to present their possibilities in analysing the issues under examination.

Key words: investment into knowledge, level of education, employee perception, economic and social status, statistical method, computer analysis

1. INTRODUCTION

Knowledge is a basic prerequisite for development. The shift towards knowledge society is a dynamic process characterized by complex and multi-layered social changes. One of its basic features is the shift of focus from manual to intellectual work. A logical consequence of such transformation is increased demand for educated employees, who

have knowledge and skills required by modern business operations. Individuals who are able and willing to invest into education thus have numerous opportunities to advance and develop their careers. The level of education has become one of the most influential factors in determining the level of income. With rising income, which represents total earnings within a given period, there is increase of wealth, as the net value of property owned by a person. It follows that investment in education has become one of the main prerequisites for improving material conditions and gaining social status. Furthermore, knowledge as a movable asset provides highly educated individuals with greater freedom in choosing their employment and encourages their mobility in the labour market. Although general technological advances have improved work conditions and living standards for manual workers as well, the prospects of educated professionals are far better as a rule.

In recent years, the topic of science and education has received more detailed attention in the Republic of Croatia. A comprehensive reform of the educational system was undertaken in order to attune the Croatian education system to modern trends and to put it in the service of development. Within this general process, primary schools have begun applying the Croatian National Educational Standard, secondary schools are gradually introducing public school leaving examinations, and higher education has changed its study programmes to conform to the Bologna Declaration. Although the effects of the initiated reforms will be impossible to assess in the short run, they are undoubtedly a key step in creating a knowledge society.

The above-mentioned processes raise a number of questions connected with education and investment in knowledge. The intention of this research was to survey the employees' views on their own economic and social position with reference to the level of education they attained, i.e. what is the impact of education on the respondents' perception. In order to examine these issues objectively, it was necessary to calculate the selected descriptive statistics which refer to the variables included in the model. This was followed by factor analysis, used to reduce the number of variables which indicate the respondents' perceptions, i.e. we determined a correlation pattern according to which research variables are classified. Subsequently, analysis of variance was used to examine if there are any statistically significant differences in employees' average assessments of their economic and social status. Finally, discriminant analysis was used to establish according to which variables the education groups of respondents discriminate the most.

The analysis of an individual's level of education influence on certain economic and social issues is significantly simplified and accelerated through computers and appropriate software. For the requirements of this research, the data were prepared by means of *Microsoft Excel 2003*, whereas statistical analysis was carried out in the statistical software package *STATISTICA 6.0*.

2. RESEARCH SAMPLE AND VARIABLES

The research was conducted on a sample of 360 employees in the area of Osijek-Baranja County. In addition to the level of education, the survey gathered the data on sex and age of respondents. According to the stated characteristics the sample is representative, since its structure was aligned with the data provided by the 2001 Census.

The survey encompassed 212 men (58.89%) and 148 women (41.11%).

To see more clearly the age structure of the people included in the sample, four groups were formed. Absolute and relative frequencies of each of these age groups are given in Table 1.

AGE GROUP (YEARS)	NUMBER OF THE RESPONDENTS	PERCENT
18-29	74	20.56
30-39	105	29.17
40-49	111	30.83
50-70	70	19.44
TOTAL	360	100.00

Table 1: *Respondents according to age groups*

The average age of respondents, calculated for ungrouped data, was 39.614 years. According to the median, 50% of respondents were aged 40 or less, whereas other 50% of individuals in the sample were aged 40 or more. The difference between the oldest and youngest respondent was 52 years. The standard deviation was 10.855 years. In this case the coefficient of variation, which value was 27.402%, shows that respondents' age cannot be considered small.

The following figure illustrates the way in which the descriptive statistics results were presented in the software package *STATISTICA 6.0*.

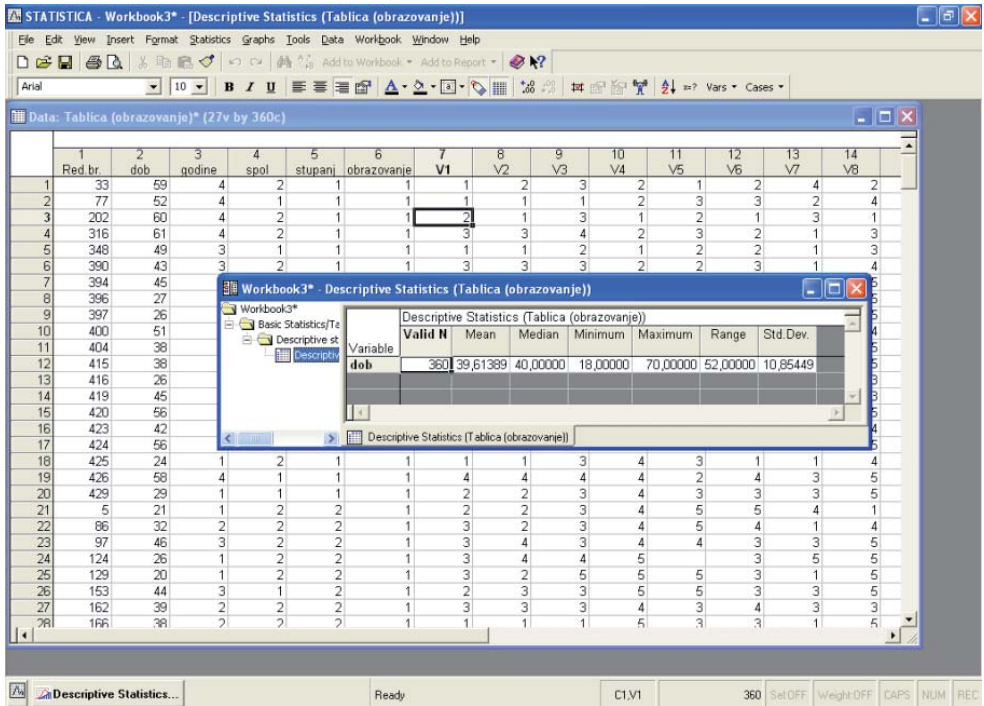


Figure 1: Presentation of descriptive statistics results in the software package STATISTICA 6.0

The measurement scale of the variable representing the respondents' education level was comprised of seven levels of qualifications. From this scale three categories were formed. The first one included respondents whose highest education was completed primary school, the second category included respondents with secondary-school education, and the third included employees with education beyond secondary school (Table 2).

LEVEL OF EDUCATION	NUMBER OF THE RESPONDENTS	PERCENT
LEVEL OF EDUCATION LOWER THAN SECONDARY	93	25.83
SECONDARY EDUCATION	206	57.22
LEVEL OF EDUCATION HIGHER THAN SECONDARY	61	16.95
TOTAL	360	100.00

Table 2: Respondents according to level of education

Table 3 is the result of simultaneous grouping according to modalities of variables defined as education level and sex of respondents.

LEVEL OF EDUCATION	SEX OF RESPONDENTS		TOTAL
	MALE	FEMALE	
LEVEL OF EDUCATION LOWER THAN SECONDARY	55 (15.28%)	38 (10.56%)	93 (25.84%)
SECONDARY EDUCATION	127 (35.28%)	79 (21.94%)	206 (57.22%)
LEVEL OF EDUCATION HIGHER THAN SECONDARY	30 (8.33%)	31 (8.61%)	61 (16.94%)
TOTAL	212 (58.89%)	148 (41.11%)	360 (100%)

Table 3: Respondents according to level of education and sex

It is possible to correlate the level of education with the feature of employees' age. This was the basis for Table 4

LEVEL OF EDUCATION	AGE GROUP (YEARS)				TOTAL
	18-29	30-39	40-49	50-70	
LEVEL OF EDUCATION LOWER THAN SECONDARY	19 (5.28%)	25 (6.94%)	27 (7.50%)	22 (6.11%)	93 (25.83%)
SECONDARY EDUCATION	48 (13.33%)	61 (16.94%)	62 (17.22%)	35 (9.72%)	206 (57.22%)
LEVEL OF EDUCATION HIGHER THAN SECONDARY	7 (1.94%)	19 (5.28%)	22 (6.11%)	13 (3.61%)	61 (16.94%)
TOTAL	74 (20.56%)	105 (29.17%)	111 (30.83%)	70 (19.44%)	360 (100%)

Table 4: Respondents according to level of education and age groups

Our research established 17 variables that reflected the employees' perception regarding their own economic and social position. The variables are as follows:

- estimate of realized income (V1),
- estimate of current job (V2),
- estimate of quality of work space (V3),
- estimate of interpersonal relations in work environment (V4),
- estimate of relations with the superiors (V5),
- estimate of job security (V6),
- estimate of possible advancement at work (V7),

- estimate of own dedication at work (V8),
- estimate of quality of respondent's housing (V9),
- estimate of the living space - street or neighbourhood (V10),
- estimate of own ability to cover the living costs (V11),
- estimate of security, e.g. savings, in case of unforeseen situations (V12),
- estimate of relations between household members (V13),
- estimate of the amount of leisure (V14),
- estimate of satisfaction with one's own life (V15),
- estimate of own wealth in material terms (V16),
- estimate of own tendency to risk-taking (V17).

The respondents' estimates were measured on a 5-level scale, with 1 signifying the lowest grade, and 5 the highest grade that could be given by the respondents. The estimates that could not be obtained through the questionnaire for objective reasons were replaced by an arithmetic mean calculated on the basis of known variable values. Thus, for example, their own relations with the superiors could not be rated by the highest-ranking employees in a company. Similarly, people living in single households could not rate the relations between household members.

3. SELECTED STATISTICAL INDICATORS REFERRING TO VARIABLES DEFINED AS ESTIMATES OF OWN ECONOMIC AND SOCIAL POSITION

Table 5 lists the values of the means and standard deviation of variables which represent estimates of the respondents' economic and social position. In addition to these values, the table contains 95% confidence intervals for mean estimates of employees' estimates.

VARIABLE	MEAN	STANDARD DEVIATION	95% CONFIDENCE INTERVAL FOR THE MEAN	
			LOWER BOUND	UPPER BOUND
V1	2.825	1.058	2.715	2.935
V2	3.156	1.163	3.035	3.276
V3	3.134	1.173	3.012	3.256
V4	3.331	1.216	3.205	3.458
V5	3.286	1.210	3.157	3.415
V6	3.144	1.283	3.012	3.277
V7	2.607	1.281	2.474	2.740
V8	4.089	0.928	3.993	4.185
V9	3.792	0.885	3.700	3.883
V10	3.750	1.023	3.644	3.856
V11	2.808	1.096	2.694	2.922
V12	1.994	1.037	1.887	2.102
V13	4.243	0.808	4.156	4.329
V14	2.833	1.120	2.717	2.949
V15	3.375	0.985	3.273	3.477
V16	2.711	1.061	2.601	2.821
V17	2.747	1.060	2.637	2.856

Table 5: Basic descriptive statistics related to analyzed variables and pertinent 95% confidence intervals for the population mean

The highest average grade was given to the relations between household members (V13). The respondents' own dedication at work (V8) also received a relatively high average grade. These were the only two variables with average grades higher than 4. The lowest average grade was given to security, such as savings, in case of unforeseen situations (V12). This suggests that employees in Osijek-Baranja County feel rather insecure.

The last two columns in the table above show 95% confidence intervals for mean estimates. In case of variable V1, they show that there is 95% probability that the average estimate of realized income of all employees in Osijek-Baranja County is higher than 2.715, and lower than 2.935.

4. FACTOR ANALYSIS OF VARIABLES WHICH REFLECT THE EMPLOYEES' PERCEPTION OF OWN ECONOMIC AND SOCIAL POSITION

In this research, factor analysis was used in order to determine latent factors, i.e. to identify those key factors that explain the pattern of correlations within the set of observed variables.

Establishing correlation matrix is the first step in examining the character of relationships between the analyzed variables. Table 6 contains the correlation coefficients and pertinent p-levels obtained by testing the hypothesis on their statistical significance (results of two-tailed test)

	V1	V2	V3	V4	V5	V6	V7	V8	V9	V10	V11	V12	V13	V14	V15	V16	V17
V1	1	0.656	0.498	0.374	0.361	0.411	0.479	0.271	0.279	0.199	0.528	0.403	0.143	0.004	0.362	0.374	0.210
V2	0.656	1	0.610	0.491	0.516	0.577	0.561	0.343	0.226	0.253	0.346	0.306	0.115	-0.008	0.367	0.321	0.205
V3	0.498	0.610	1	0.466	0.411	0.418	0.453	0.358	0.194	0.226	0.322	0.284	0.106	0.056	0.271	0.303	0.206
V4	0.374	0.491	0.466	1	0.627	0.444	0.438	0.340	0.127	0.209	0.291	0.217	0.158	0.071	0.247	0.157	0.232
V5	0.361	0.516	0.411	0.627	1	0.498	0.448	0.344	0.192	0.224	0.273	0.239	0.238	0.124	0.342	0.269	0.205
V6	0.411	0.577	0.418	0.444	0.498	1	0.518	0.322	0.093	0.155	0.250	0.216	0.137	0.048	0.281	0.211	0.177
V7	0.479	0.561	0.453	0.438	0.448	0.518	1	0.285	0.176	0.214	0.372	0.346	0.214	0.022	0.361	0.305	0.293
V8	0.271	0.343	0.358	0.340	0.344	0.322	0.285	1	0.148	0.235	0.208	0.171	0.246	-0.058	0.134	0.137	0.130
V9	0.279	0.226	0.194	0.127	0.192	0.093	0.176	0.148	1	0.496	0.433	0.299	0.310	0.136	0.393	0.422	0.271
V10	0.199	0.253	0.226	0.209	0.224	0.155	0.214	0.235	0.496	1	0.303	0.180	0.234	0.122	0.287	0.293	0.228
V11	0.528	0.346	0.322	0.291	0.273	0.250	0.372	0.208	0.433	0.303	1	0.556	0.333	0.127	0.440	0.523	0.273
V12	0.403	0.306	0.284	0.217	0.239	0.216	0.346	0.171	0.299	0.180	0.556	1	0.318	0.131	0.406	0.485	0.296
V13	0.143	0.115	0.106	0.158	0.238	0.137	0.214	0.246	0.310	0.234	0.333	0.318	1	0.174	0.368	0.374	0.223
V14	0.004	-0.008	0.056	0.071	0.124	0.048	0.022	-0.058	0.136	0.122	0.127	0.131	0.174	1	0.226	0.185	0.042
V15	0.362	0.367	0.271	0.247	0.342	0.281	0.361	0.134	0.393	0.287	0.440	0.406	0.368	0.226	1	0.552	0.312
V16	0.374	0.321	0.303	0.157	0.269	0.211	0.305	0.137	0.422	0.293	0.523	0.485	0.374	0.185	0.552	1	0.361
V17	0.210	0.205	0.206	0.232	0.205	0.177	0.293	0.130	0.271	0.228	0.273	0.296	0.223	0.042	0.312	0.361	1

Table 6: Correlation coefficients between the 17 analyzed variables with related p-levels obtained in testing the hypothesis about their significance

The obtained results suggest that in terms of statistical significance there is a weak or moderate positive correlation between most of the analyzed variables. The strongest correlation was established between the variables referring to the estimate of realized income (V1) and estimate of current job (V2), estimate of interpersonal relations in work environment (V4) and estimate of relations with the superiors (V5), as well as estimate of current job (V2) and estimate of quality of work space (V3). Statistical significance of correlation coefficients was not confirmed between the variable defined as the estimate of the amount of leisure (V14) and the majority of other variables. The results that are marked in the table are those referring to the pairs of variables whose correlation coefficients are statistically significant at the level $p < 0.05$.

Within factor analysis, the extraction was carried out by principal components analysis. Number of principal components was determined by means of Kaiser criterion and following this limitation, the space of 17 variables was reduced to 3 principal components that explain 59.147% of total variance. Table 7 contains eigenvalues, percent of variance explained and cumulative percent of variance explained of extraction and rotation sums of squared loadings.

PRINCIPAL COMPONENT	EXTRACTION SUMS OF SQUARED LOADINGS			ROTATION SUMS OF SQUARED LOADINGS		
	LAMBDA	PERCENTAGE OF VARIANCE EXPLAINED	CUMULATIVE PERCENTAGE OF VARIANCE EXPLAINED	LAMBDA	PERCENTAGE OF VARIANCE EXPLAINED	CUMULATIVE PERCENTAGE OF VARIANCE EXPLAINED
1	5.879	34.585	34.585	3.870	22.765	22.765
2	2.010	11.826	46.410	3.223	18.956	41.721
3	1.114	6.553	52.963	1.731	10.181	51.902
4	1.051	6.184	59.147	1.232	7.245	59.147

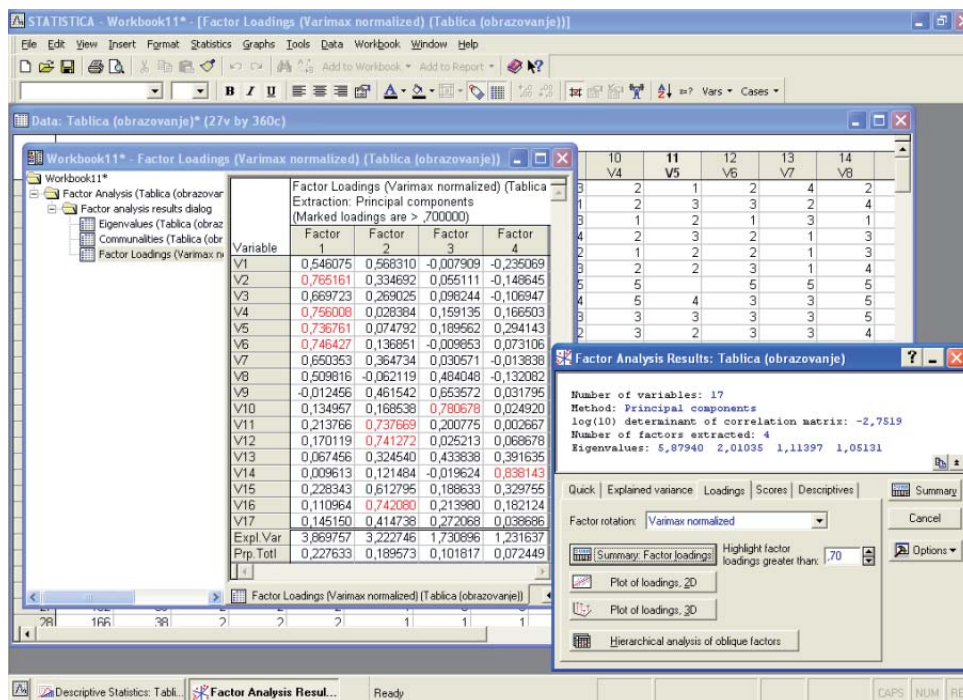
Table 7: *Eigenvalues (LAMBDA), percentage of variance explained and cumulative percentage of variance explained of extraction and rotation sums of squared loadings*

In order to attain higher interpretability it is necessary to rotate the main components. Table 8 lists the values of partial correlations between 17 analyzed variables and 4 factors, which were determined after transforming the main components into a varimax position.

VARIABLE	FACTOR			
	1	2	3	4
V1	0.546	0.568	-0.008	-0.235
V2	0.765	0.335	0.055	-0.149
V3	0.670	0.269	0.098	-0.107
V4	0.756	0.028	0.159	0.167
V5	0.737	0.075	0.190	0.294
V6	0.746	0.137	-0.010	0.073
V7	0.650	0.365	0.031	-0.014
V8	0.510	-0.062	0.484	-0.132
V9	-0.012	0.462	0.654	0.032
V10	0.135	0.169	0.781	0.025
V11	0.214	0.738	0.201	0.003
V12	0.170	0.741	0.025	0.069
V13	0.067	0.325	0.434	0.392
V14	0.010	0.122	-0.020	0.838
V15	0.228	0.613	0.189	0.330
V16	0.111	0.742	0.214	0.182
V17	0.145	0.415	0.272	0.039

Table 8: Rotated component matrix (varimax rotation)

Figure 2 shows the procedure of establishing the correlation matrix between 17 analyzed variables and 4 factors by means of the software package *STATISTICA 6.0*.

**Figure 2:** Presentation of selected results of factor analysis in the software package *STATISTICA 6.0*

It follows from the obtained results that the first factor was structured by 7 variables defined as the estimate of current job (V2), estimate of quality of work space (V3), estimate of interpersonal relations in work environment (V4), estimate of relations with the superiors (V5), estimate of job security (V6), estimate of possible advancement at work (V7) and estimate of own dedication at work (V8). As these variables refer to estimates of certain aspects of the respondents' jobs, the factor structured in this way could be called the **factor of job satisfaction**. The strongest correlation with this factor was established for the variable which reflects the estimate of current job (V2), and slightly weaker correlation was found for the variables representing the estimate of interpersonal relations in work environment (V4), estimate of job security (V6) and estimate of relations with the superiors (V5).

The second factor was formed by 6 variables defined as the estimate of realized income

(V1), estimate of own ability to cover the living costs (V11), estimate of security, e.g. savings, in case of unforeseen situations (V12), estimate of satisfaction with one's own life (V15), estimate of own wealth in material terms (V16) and estimate of own tendency to risk-taking (V17). The stated variables directly or indirectly reflect the perception of employees' personal resources. This factor can therefore be called the ***factor of satisfaction with realized income and wealth***. The fact that the variable representing satisfaction with one's life (V15) is part of this factor implies that material factors have an impact on people's happiness.

The third factor is formed by variables defined as the estimate of quality of respondent's housing (V9), estimate of the living space - street or neighbourhood (V10) and estimate of relations between household members (V13). The factor structured in this way can be called the ***factor of satisfaction with living conditions and relations in household***.

The fourth factor consists of the variable referring to the estimate of the amount of one's leisure (V14). The fourth factor can thus be called the ***factor of satisfaction with one's own leisure***.

5. EXAMINATION OF DIFFERENCES IN EMPLOYEES' ESTIMATES BY MEANS OF ANALYSIS OF VARIANCE AND DISCRIMINANT ANALYSIS

In order to investigate whether there are any statistically significant differences in employees' estimates when assessing their jobs, living conditions, relations in the household and their own qualities and achievements with regard to the attained level of education, we used the analysis of variance. Discriminant analysis was used to verify if there are any discriminant functions according to which the established employee groups might differ.

Table 9 lists the values of means and standard deviations that were calculated for 17 analyzed variables with regard to the three respondent groups we established. Table 9 contains also F-values and p-levels obtained by testing the hypotheses about differences between population means.

VARIABLE	LEVEL OF EDUCATION						F-value	p-level
	LEVEL OF EDU- CATION LOWER THAN SECOND- ARY		SECONDARY EDUCATION		LEVEL OF EDU- CATION HIGHER THAN SECOND- ARY			
	Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation		
V1	2.301	0.942	2.903	1.007	3.361	1.065	22.098	0.000
V2	2.548	1.038	3.282	1.134	3.656	1.078	21.800	0.000
V3	2.711	1.090	3.258	1.159	3.361	1.184	8.733	0.000
V4	3.333	1.173	3.303	1.248	3.426	1.176	0.243	0.784
V5	3.084	1.173	3.344	1.207	3.398	1.041	1.908	0.150
V6	2.688	1.216	3.214	1.300	3.607	1.115	10.693	0.000
V7	2.323	1.226	2.547	1.255	3.246	1.247	10.680	0.000
V8	3.935	1.140	4.121	0.832	4.213	0.859	1.954	0.143
V9	3.495	0.963	3.893	0.860	3.902	0.746	7.308	0.001
V10	3.462	1.027	3.816	1.029	3.967	0.912	5.618	0.004
V11	2.366	0.964	2.815	1.084	3.459	0.993	20.394	0.000
V12	1.710	0.802	2.024	1.093	2.328	1.060	6.970	0.001
V13	4.177	0.764	4.257	0.838	4.295	0.605	0.498	0.608
V14	2.914	0.974	2.869	1.168	2.590	1.146	1.792	0.168
V15	2.925	0.912	3.524	1.011	3.557	0.786	14.082	0.000
V16	2.269	0.836	2.796	1.116	3.098	0.961	13.718	0.000
V17	2.452	1.016	2.809	1.067	2.984	1.008	5.650	0.004

Table 9: The results of testing the hypothesis about differences between population means of variables representing respondents' perception regarding the analyzed characteristic (level of education)

Only the variable representing the estimate of the amount of leisure (V14) did not receive the highest average grade by the respondents with education level beyond secondary school. Employees who had not reached secondary school education gave the lowest average grade as an answer to almost all the questions. As emphasized in the table, at the level $p < 0.05$, statistically significant are the differences in average grades given by three groups of employees to assess their realized income (V1), current job (V2), quality of work space (V3), job security (V6), possible advancement at work (V7), quality of their housing (V9), their living space - street or neighbourhood (V10), ability to cover the living costs (V11), security, e.g. savings, in case of unforeseen situations (V12), satisfaction with their life (V15), own wealth in material terms (V16), and tendency to risk-taking (V17).

By canonical analysis it was established that three groups of employees within the latent space differ through two discriminant functions. Table 9 shows the test results of

their statistical significance.

SUCCESSIVE ROOTS REMOVED	WILKS' LAMBDA	χ^2	p-level
0	0.698	125.562	0.000
1	0.915	30.844	0.014

Table 10: Results of testing the significance of discriminant functions

The results of testing indicate that both discriminant functions are statistically significant at the level $p < 0.05$.

The importance of each predictor variable within the established discriminant functions can be easily demonstrated through a structure matrix (Table 11)

VARIABLE	DISCRIMINANT FUNCTION	
	1	2
V1	-0.628	0.083
V2	-0.625	-0.067
V11	-0.577	0.339
V16	-0.496	-0.021
V15	-0.468	-0.338
V6	-0.437	0.053
V3	-0.382	-0.195
V12	-0.349	0.103
V9	-0.333	-0.260
V17	-0.318	-0.042
V10	-0.316	-0.062
V8	-0.187	-0.023
V5	-0.179	-0.086
V13	-0.094	-0.014
V7	-0.370	0.431
V14	0.136	-0.215
V4	-0.025	0.112

Table 11: Structure matrix

The obtained results suggest that 13 variables achieved a stronger correlation with the first discriminant function. As for the second discriminant function, a stronger correlation was achieved by variables defined as the estimate of possible advancement at work (V7), estimate of the amount of leisure (V14) and estimate of interpersonal relations in work environment (V4).

Figure 3 shows how the canonical analysis is conducted in the framework of discriminant analysis using the software package *STATISTICA 6.0*.

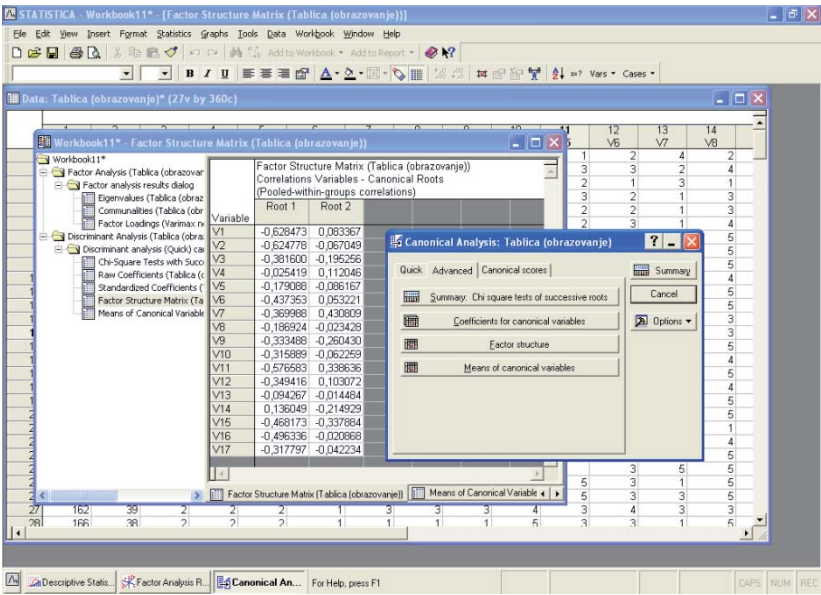


Figure 3: Canonical analysis in the framework of discriminant analysis using the software package *STATISTICA 6.0*

Table 12 lists the values of group centroids, which are used to determine the position of each group in the discriminant space.

LEVEL OF EDUCATION	DISCRIMINANT FUNCTION	
	1	2
LEVEL OF EDUCATION LOWER THAN SECONDARY	0.861	0.209
SECONDARY EDUCATION	-0.157	-0.247
LEVEL OF EDUCATION HIGHER THAN SECONDARY	-0.783	0.517

Table 12: Functions at group centroids

The centroids calculated for the first discriminant function indicate that the biggest aberration from the average into the negative direction is displayed by employees with education below secondary school level, whereas most positive aberration is noticeable in respondents with education beyond secondary school level. As for the second discriminant function, both these groups display aberration from the average into the negative direction, but more educated respondents to a greater degree. In interpreting the results obtained in this way note should be taken of the signs of correlation coefficients stated in the structure matrix.

6. CONCLUSION

Knowledge and education represent the foundations of human society. Investment into their development is a basic prerequisite for overall economic development, and consequently a prerequisite for improving any individual's living standard. Contemporary business conditions have brought about a significant increase in demand for educated personnel who are trained to manage even the most complex processes. In such circumstances the level of education has become one of the most important assets a person can have.

As a rule, higher education makes it easier to find employment, provides higher income and better work conditions. The consequences are higher material achievements of more educated individuals, as well as their higher social status, which includes a certain amount of power. Emerging from all this is also the expected differences in perception of their own economic and social position in groups of employees with different education levels. These very differences have been identified in this research.

The employees included in the sample gave the highest average grade to the relations between household members and their own dedication at work, and the lowest to security in case of unforeseen situations. Within factor analysis, the range of 17 variables reflecting the respondents' views was reduced to 4 major factors - the factor of job satisfaction, the factor of satisfaction with realized income and wealth, the factor of satisfaction with living conditions and relations in household, and the factor of satisfaction with one's own leisure. Our research has confirmed that on average employees with higher level of education give a higher average rating to their own economic and social position, and a lower average rating to the amount of leisure. Discriminant analysis has confirmed that there are two statistically significant discriminant functions.

Information technology has proved to be indispensable in analyzing respondents' views. Its advances have had a tremendous impact on research of mass phenomena. This paper has demonstrated just a few possibilities offered by computers in conducting statistical analyses covering a wide range of data and variables.

REFERENCES

- Čerić, V., Varga, M. (urednici): Informacijska tehnologija u poslovanju, Element, Zagreb, 2004.
- Drucker, P.: Nova zbilja, prijevod, Novi Liber, Zagreb, 1992.
- Haralambos, M., Heald, R.: Uvod u sociologiju, prijevod, Globus, Zagreb, 1989.
- McClave, J.T., Benson, P.G., Sincich, T.: Statistics for Business and Economics, Eight Edition, Prentice Hall International, London, 2001.
- McConnell, C.R., Brue, S.L.: Suvremena ekonomija rada, Treće izdanje, prijevod, Mate d.o.o., Zagreb, 1994.
- Mills, D.Q.: Labor - Management Relations, Fifth Edition, McGraw-Hill, Inc., New York, 1994.
- Poulsen, J., French, A.: "Discriminant Function Analysis", <http://online.sfsu.edu/~efc/classes/biol710/discrim/discrim.pdf>
- "Radno sposobno stanovništvo staro 15 i više godina prema starosti, trenutačnom statusu aktivnosti i završenoj školi, po županijama, Popis 2001.", http://www.dzs.hr/Hrv/Popis%202001/Popis/H01_02_14/H01_02_14.html
- Siebes, A.: "Factor Analysis", <http://www.cs.uu.nl/docs/vakken/wo2/Sheets/sheets6.pdf>
- "Stanovništvo prema starosti, spolu, aktivnosti i mjestu stanovanja 31. ožujka 2000., po županijama, Popis 2001.", http://www.dzs.hr/Hrv/Popis%202001/Popis/H01_03_01/H01_03_01.html
- Weihrich, H., Koontz, H.: Menedžment, Deseto izdanje, prijevod, Mate d.o.o., Zagreb, 1994.

BASKETBALL LOGISTIC SYSTEMS KNOWLEDGE MANAGEMENT

Mr. sc. Branislav Orešković
Postgraduate studies Management, Osijek

SUMMARY

This paper deals with the area of management in basketball. It was written in the year 2006 when the Croatian Parliament passed the new Sport Act which defines almost all the possibilities connected with the process of globalization in sport. We can expect more and more foreign capital to enter the Croatian basketball and clubs. This possibility was opened when the sports stock corporations started to be set up by national and foreign physical persons and corporate bodies. Both professional and amateur clubs can be set up in this way (as corporations) either on a voluntary basis or forced by the law. The legislation also specifies some restrictions for sport corporations setting up in order to avoid conflicts of interest among participants in sport.

The focus of this paper is on the role and significance of the county basketball associations in their connection with knowledge management, and they are called basketball logistic systems in this paper. It is very difficult for the Croatian basketball in the environment of developed and rich European sport to find its way to be competitive, because of the limited financial resources in the first place. That is why this paper tries to stress the significance of knowledge management, as well as the need to organise basketball logistic systems in a good way. These two factors should contribute to upgrading Croatian basketball in the long run and creating long-term development strategies that will increase its competitiveness in the European context.

What was especially analysed in the paper is the vertical connections of the whole basketball organisation system, where knowledge management in the county basketball associations of the five counties in the Eastern Slavonia has been researched. It has been noticed that some of the Eastern Croatia county associations do not communicate with each other enough. It has been concluded that a regional basketball association should be founded (the new sport legislation enables this) and that it would greatly contribute to a more balanced development of some parts of our basketball system. It would also provide a quality basis of the whole system which would make conditions for the faster and better development of basketball in Croatia in general.

The author of this paper was able to reach relevant documents and data from the five

Eastern Croatian counties. What helped him a lot in creating this work was his experience and participation in sport in this area where he was a commissioner of A-2 league – East group. That is why the author focused on the Eastern Croatia in his research.

1. BASKETBALL LOGISTIC SYSTEMS OF EAST SLAVONIA – COUNTY BASKETBALL ASSOCIATIONS

1.1. Sport act

In Jun 2006, the new sport act came into effect. The highest national body responsible for the development and quality of sports in Croatia is the National Sport Council. The National Sport Council is responsible to the Croatian Parliament and once a year it has to submit a report on the activities.

SPORT SYSTEM AND SPORT ACTIVITIES ¹

“Persons in sport system

(1) The sport system in the Republic of Croatia consists of:

- physical persons,
- corporate bodies, and
- school sports clubs set up without juridical personality.

(2) Physical persons in the sport system are:

- sportsmen and sportswomen,
- coaches,
- people qualified to work in sport,
- people who participate in organisation and guidance of a sport competition (a sport referee, a sport delegate, a sport commissioner, etc.), as well as sport managers.

(3) Corporate bodies in the sport system are:

- associations,
- trading companies, and
- institutions.”

According to the Sport Act, a sportsman/sportswoman is a person who prepares for and takes parts in sport competitions as a member of a corporate body that carries out the activities of participation in sport competitions or as a person who participates in sport competitions on their own. The latter is not possible in basketball. A sportsman/sportswoman can have the status of a professional sportsperson or an amateur.

Sportspersons are classified into several categories:

- top (I, II, and III category),

¹ Sport Act, the Croatian Parliament, Zagreb, Jun 2006. talented (V and VI category).

- excellent (IV category), and
- institutions.”

Those are so called categorised sportsmen/sportswomen, classified into categories by the Croatian Olympic Committee on the basis of the realised sport results. At least three legal bodies that carry out activities connected with the same sport can join into a sports association, in order to realise the common interests. The activities carried out by a sports association are: the arrangements of a competition system, promotion of the qualified work in sport, taking care of categorised sportsmen/sportswomen, balancing the activities of its members, the arrangements of details related to the registration of sportspersons, as well as their status and their disciplinary liability. At the national level, as well as the local and regional levels, there can only be one sports association set up in one sport.

The law makers included a new body corporate – a sports club – called a *sports corporation* (*športsko dioničko društvo* or *š.d.d.*) in the new sport act. A *sports club – sports corporation* is set up, functions and ends according to the Act on Trading Companies and legislation covering (stock) corporations if this act doesn't order something else. A sports corporation can be set up in two ways: a new one can be made, or sports clubs – associations for competition – can be turned into a sports corporation. This transformation can be either obligatory or carried out voluntarily. A voluntary transformation of a sports club into a sports corporation doesn't depend on whether the club is professional or amateur. An obligatory transformation is carried out according to the Sport Act. The legal capital of a sports corporation amounts to 500,000.00 kunas at least. National and foreign physical persons and corporate bodies can set up sports corporations and be their members. The legislation includes some restrictions that prevent conflicts of interest concerning the membership in a sports corporation and the amount of the share of corporate stocks. One person can own 25% of shares at most, with the consent of the Board, and if a person wants to take over up to 5% of shares, the Board doesn't need to be contacted.

In the Act, the authorities prescribed some professional tasks in sport, as follows: sport preparations (programming and performing); coaching young players in sports schools (programming and performing); sports recreation (programming and performing); extracurricular school sports activities (programming and performing); and coaching basic techniques of a sport. What is extremely important here is that this legislation prescribes adequate qualifications of people who can do certain jobs in sport. The law makers prescribe the qualifications for the people who can carry out the professional tasks in a sport: being a first-level-trainer at least, or having qualifications achieved in an institution for training personnel whose programme is based on the top European or world associations for certain sports (e.g. FIBA) and which enables participants to get a licence from these associations.

In Croatia, sport in general is funded with the incomes from the sport activities

(achieved by physical and legal persons performing these sport activities), sports clubs and associations' membership dues, partially with the lottery and betting profits, and with the financial resources that originate from the local and regional authorities, as well as the City of Zagreb and the state who all help carrying out sport activities with a part of their budgets.

Professional, as well as amateur, sports clubs achieve a significant part of their gains through their marketing activities – sponsorship contracts in the first place. However, the significant amounts of money from the country's economy will flow into sport only if the tax policy (e.g. profit tax) stimulates those who invest in sport (greater tax relieves or tax incentives). Among the five counties of the Eastern Croatia, the level of development of basketball logistic systems is quite varied.

1.2. KNOWLEDGE AND MANAGERS AS THE MAIN RESOURCES OF TOP QUALITY BASKETBALL AND COMPLEMENTARY BUSINESS ACTIVITIES DEVELOPMENT

1.2.1. The place and significance of top managers

The resources such as organisation, technology, property, and equipment are more or less available and present to a greater extent. On the other hand, experts for certain fields and quality managers and their teams are not available in Croatia to the extent to which we need them. That is why the fees for those people's services are usually high, for both business and sport projects (top quality trainers, managers, advertising experts etc.)

Only the people possessing necessary management knowledge and skills are able to gather staff members and other co-workers and successfully unite their professional activities in order to achieve the aims of the sport clubs or associations, meeting the deadlines. Basketball in general, as well as its sports clubs and associations, must have a clear vision, mission and strategies.

Only the top quality managers and their teams who achieve top quality sport output of satisfying proportions by the optimal allocation of the available resources and good organisation system are those who greatly contribute to the successful realisation of the basketball vision, mission and strategies.

Basketball as a sport has its products: clubs' games, players' basketball skills, final ranking on the championship charts, audience present at the sports events (profits from sold tickets and advertising). The watchers go to basketball games "to buy" pleasure (they pay for the ticket), and they want to leave the hall satisfied (the quality of the show, the win of their club, attractive sport movements and actions, sound system, entertainment,

lottery etc.); sponsors want halls packed with audience (the positive effects of advertising their products and services).

In our sport world, there is a wrong image of a manager, which presents him or her as a person who merely buys and sells players through their agencies. The managers and their teams who are responsible for the improvements in basketball are the other kind of people who simply know *how*, *when* and *where*. They are able to unite all the available resources of a sport club or association in order to achieve set goals. They are those who analyse, plan, carry out and control the business. If you want to control something, you need to measure it first. It is important to compare the results of a sports club or association with the results of the same kind in the surrounding area, region and state. One of the managers' tasks in the clubs and associations is knowledge management. The knowledge management in a club is for the club members' sake, while the knowledge management in a sport association is for the sake of the association's members. Knowledge management should function as the means of basketball development and achieving of a greater sport output (top quality players, good referees, skilled coaches, the number of players in the national team, ranking in competitions, ranking on the championship charts, the height of the gained profits by sport activities etc).

Basketball players, basketball clubs, and their associations all appear on a public scene. Their successes and failures are known in public and recorded. Only the successful coaches, players, referees and managers survive in their organisations and make progress. In order to be successful they have to work hard, improve themselves and prove their quality with the results every day. Keeping this in mind, I would like to paraphrase the title of a famous song by the pop group *Colonia*: "Life likes winners".

1.2.2. Knowledge placement and significance

The contemporary literature on economics presents knowledge as the fundamental resource, and it points out its incarnation in the form of intellectual capital. The logistic systems in basketball should be those who stimulate certain activities that develop the awareness of how important this resource is for the basketball development and the development of complementary business activities.

Knowledge can be classified into two categories (by Ikujiro Nonaka):

- explicit knowledge, and
- tacit knowledge.

Explicit knowledge is formalised, it is easy to understand, it appears in books, magazines, video records, computer programmes, data bases etc. Tacit knowledge is implicit knowledge and it is difficult to be communicated, it has its source in individual observation and experiences, and it contains mental models, insights, beliefs, perspectives

and so on. We can also differentiate between individual and collective knowledge. For example, the knowledge of a player in a club is individual knowledge, while the knowledge of the whole team or of all the members of the club is collective knowledge. It is necessary to manage knowledge, and this process already starts at the moment when we only select it. The purpose of knowledge management is creating individual knowledge and creating a net of individual knowledge, transforming individual knowledge into collective and using all the forms of knowledge in order to get the business goals of an organisation. Knowledge management aims at creating a new value in an organisation (in a club). One of the very important features of knowledge management process is the function of knowledge distribution (exchange and spreading). To achieve a successful knowledge management process, it is also important to have developed IT and communication technologies available in clubs and associations.

Basketball logistic systems have knowledge of all their members (both of associations and clubs): individual and collective, explicit and tacit. This knowledge refers to: training and improvement of basketball players (the knowledge possessed by coaches), the organisation of a competition (the knowledge possessed by commissioners of competitions), the conducting of a competition according to the basketball game rules (the knowledge possessed by referees, assistant referees and statisticians), the organisation of a competition according to the propositions and the control of referees and competition organisation (the knowledge possessed by sports clubs and basketball federation commissioners – who control referees), marketing knowledge and so on.

1.2.3. Complementary business activities

The activities that are complementary to sport are: tourism, sportswear and footwear production and trade, catering industry, health food production and many other service activities (charging parking lots, fitness centres, letting sport playgrounds and offices, rent-a-car service etc.), basketball schools for coaching young children (mini-basketball), sport recreation and so on. “In entrepreneur projects based on the described programmes, sport becomes the main force of the business and a stimulus to the business success.”²

A great number of supporters attend the games of famous professional basketball clubs in regional and European competitions, and they also travel with the club from one place to another. Among those who accompany a club on the tours are also certain officials (members of management boards, associations etc.). These situations illustrate how sport helps tourism development. Many people visit a place because of some sporting events although they would never go there otherwise. When officials from two different

² Mato Bertoluci: *Ekonomika i menadžment sporta (Sport economics and management)*, HAZU (Croatian Academy of Sciences and Arts) and Zagreb Faculty of Kinesiology, Zagreb, 1997.

clubs meet at these events, it very often may result in international business cooperation (investing, trade, partnership, business information exchange, etc).

Sport helps people to meet each other, to get closer, to develop trust and respect, which is often the first step in the business cooperation of two clubs' sponsor firms. The latter example helps us conclude that sport is one of the catalysts that deepen the business cooperation in general.

Take a look at a great struggle of national sport federations for getting the right to organise the European or world championships in certain sports. Here, the national sport federations have a great support of their states. The realisation of such great entrepreneur's programmes brings profits to the whole economy. Competitions are organised in several towns, sports facilities have to be redecorated so as to meet the high European or world standards, some new facilities have to be build. The same thing happens to hotel facilities. During the championship, tickets for the games are sold out, and hotels are full. The organisers get great profits by selling the rights to world famous media (radio and TV) houses.

Advertising rights are also sold out. After such big sports events, the investors in sport programmes are satisfied, as well as the host towns whose tourist and sport infrastructure has been renewed. Neither service activities can hide the business rise and profits. Groups of supporters will often return as tourists to the destinations they have discovered on the championship trips, and sometimes they will bring along their families and friends.

One of the important preconditions for a national federation to get the organisation of such a great event is a good national placement of the sport on the European and world charts, and the national selections' placement (seniors, juniors, cadets) at such big sport events, which all reflect the success and popularity of the sport in the country.

2. BASKETBALL LOGISTYC SYSTEMS DEVELOPMENT BASED ON KNOWLEDGE MANAGEMENT

Those who should have the main role in improving the Croatian basketball are the county basketball associations, but, on average, they are not able to play this role because there are great differences in the organisation among them: some are quite developed, while some of them are in their infancy. The systematic management of basketball, organisational, and manager's knowledge could solve this. One of the necessary preconditions for the successful knowledge management is the setting up of regional basketball associations. The regional basketball association would have to employ a professional secretary in its headquarters, and its management board would include presidents and secretaries of the county basketball associations. In this way, it would be easier for the Croatian Basketball Federation (CBF) – the highest basketball organisation in Croatia – to distribute knowledge to certain county associations. For the good start of knowledge management

process it is necessary to assure that every county association has a professional secretary. These professional secretaries need to have the experience of successful working at sport activities for several years, as well as the academic qualifications proposed by the new Sport Act. Thus we would create the organisational preconditions for the successful knowledge management and business in the Eastern Croatian area of the five counties.

Instructors, external associates, top referees and coaches from the basketball federation (CBF) would hold seminars in regional centres from time to time where they would work with players, coaches, club officials, secretaries, and referees in order to improve the skills and knowledge of the latter. One more reason why Croatia should search for the key to success in this way is the relatively small number of people who live in this country (a bit more than four million); so good organisation, trained staff, knowledge and skills management are the only ways for us. A great help to all that would also be developed information and communication technology (computers, Intranet, Internet, computer programmes etc).

The next precondition for the successful knowledge management process realisation in the basketball organisation would be making the amendments to sport legislation that covers the standards and criteria for financial resources distribution: the National Sport Council, as the highest political body for sport in Croatia, should rule that the financial resources coming from the local budgets should come in two forms (be divided into two funds). The first would cover the funding of the ongoing activities of basketball clubs and associations (competitions, hall games and trainings according to a timetable, transport etc), and the other would support staff and members development. The resources from the second one would be spent on the training of coaches (education, seminars) and referees, sending young players to basketball camps, as well as training basketball official in organisational, management and marketing skills. The resources allocated to raising the levels of knowledge and skills should not be spent on ongoing activities of clubs, and taking care of that would be one of the most important tasks of regional associations.

The Croatian Basketball Federation (CBF) has its institution for education and training in basketball knowledge and skills which is Basketball Academy in Poreč (it trains young players, coaches and referees). The Academy carries out most of its programmes during summer months. During the rest of the year, the programmes of the Academy should be organised in the regional basketball associations' centres at weekends (for example, every three months). We can conclude that the knowledge and skills taught by the Academy would be significantly cheaper and more affordable in this way. Moreover, the experts at certain fields (competitions, refereeing, coaching, organisation, marketing and management) from the basketball federation would be able to get a better picture of the situation in every county association. As a consequence, they could start to improve the weakest links in every association, and strengthen the organisational structure as well as raise the level of basketball knowledge and skills in this way. It is very important to point out that it is

cheaper to bring five experts to a regional centre to hold a seminar and workshops for 100 candidates from the region, than to organise the same events in the far-away education headquarters. We should keep everything that we have right now, and spread the activities of the Academy to the regional centres of basketball associations.

3. CONCLUSIONS

Top-notch and professional basketball became a business and a matter of prestige for clubs, regions, associations and states a long time ago. In Croatia, basketball is an extremely popular sport with a great tradition and some significant clubs' successes at big international competitions in the past. It can be noticed that the Croatian basketball is slowly but surely returning to the high level it used to be at. However, the Croatian basketball national team hasn't reached the planned results at big international competitions in the last 10 years. Competing with the rich and highly developed European countries, whose clubs, national teams and associations have several times greater financial support, people who are responsible for basketball in Croatia need certain "trump cards" in order to achieve competitiveness. These trump cards are knowledge, skills and knowledge and skills management. What also help us become competitive are good organisation, management and marketing.

In order to have strong national leagues (competitions), it is important to have a certain number of good first and second league clubs. However, to achieve that aim, it is also important to have high-quality work at minor-league clubs, especially with young players. The new Sport Act (*Narodne Novine 71/2006*), which prescribes the qualifications for the people working in sport, helps to raise the number of qualified and skilled people in sport and it positively influence knowledge management and its successful distribution.

The new act also contains some globalisation parameters, one of which is the possibility of joint ownership in sports corporations (sports clubs – corporations), so in the near future we can expect foreign capital investments in our best clubs. The new legislation provides all the conditions for the privatisation of professional and amateur clubs either voluntarily or according to the law orders if the conditions require that.

A lot of successful sportspersons as well as other people successful in sport have the functions in the Croatian Basketball Federation's bodies, and with all the duties in their own clubs and county associations, they don't have time to cooperate with the closest neighbouring county associations. This is the point where the successful knowledge transfer of the region is hindered. In a similar way, the professionals from the Croatian Basketball Federation are too far-away from certain county associations.

I find that building up a net of regional basketball associations is a catalyst for the process of fast and successful knowledge management, which means a fast flow of knowledge and information (communication framework) from the top towards the lower levels and vice versa (from the experts to those who need it on the lowest levels including the feedback).

I also think that our top basketball organisation (Croatian Basketball Federation) must find strength to get the organisation of a big basketball competition, such as the European Basketball Championship, which would greatly contribute to the further popularisation of basketball in Croatia and the development of complementary business activities, for example, sport tourism. Such a big event would also influence the development of sport infrastructure in host towns, and it would promote our country in Europe and the world.

4. BIBLIOGRAPHY

1. Mato Bertoluci: *Ekonomika i menadžment sporta (Sport economics and management)*, HAZU (Croatian Academy of Sciences and Arts) and Zagreb Faculty of Kinesiology, Zagreb, 1997.
2. *Sport Act 2006*, the Croatian Parliament, Zagreb, 2006.
3. Ante Kardum: *Brodsko-posavska County Basketball Association's Report on activities 2004-2005*, KS BPZ (Brodsko-posavska County Basketball Association), Slavonski Brod, 2005.
4. *Košarka za mlade igrače – vodič za trenere*, UHKT (Croatian Basketball Coaches Association), Zagreb; the translation of *Basketball for young players – guidelines for coaches*, FIBA
5. *The Statute of Vukovarsko-srijemska County Basketball Association*, KS VSŽ (Vukovarsko-srijemska County Basketball Association), Vukovar, April 2006.
6. Web pages:
<http://www.hks-cbf.hr>
<http://www.kosarka.hr>
<http://www.kspbz.org>
<http://www.hka-a-petrovic.hr>
<http://www.basketball-academy.com>
http://www.uhkt.hr/prijavnica_porec2006.php

KNOWLEGDE MANAGEMENT AND IT'S APPLICATION IN CROATIAN COMPANIES

Barbara Marušnik

Postgraduate specialists study

„Organization and Management“ Osijek

ABSTRACT

Following the trends of recent business, emerges the need of managing, first of all in the context of Human Resource Management with reference to human knowledge, and secondly with reference to data and information management through the application of Expert Systems.

The goal of this article is to approach the notion of Knowledge Management, to see the ways of application in Croatian companies and awake the need of knowledge managing to those who don't manage with it yet.

Knowledge is the power of the 21st century. The key of company success in recent business conditions lies exactly in revealing and valuating the human knowledge.

Key words: Knowledge Management, ICT Management, Human Resource Management

1. INTRODUCTION

Penetration and survival on the market in the recent market conditions is harder and harder. The offer outstrips the boom considerably. Consumers can choose from a big palette of products. Which products will be their choice will depend upon the quality, innovativeness, functionality, design, their own perception and so on.

If we want our product to be unique and competitive, our task is to seek for new knowledge about how to advance our product so that it can be advisable for the consumer. Those who possess knowledge, innovativeness, creativity, experience and skills are the employees. Managing and guiding the employee's knowledge, skills and competences lead to competitiveness. If we want the process of knowledge transfer to be efficient we need to invest in informational communicational technology and enable and stimulate the employees to work in this way.

In the article it is given the definition of Knowledge Management, it is also given the description of knowledge sorts and the fields of its application. The list of Croatian companies that are managing the knowledge of their employees is given according to procurable resources. The ways of Knowledge Management in specific companies are shortly described in the article.

Efficient and effective Knowledge Management lead to sustainable competitive advantage.

2. MANAGEMENT AND KNOWLEDGE

In the beginning it is good to define two words found in the notion Knowledge Management.

Managing is guiding activities and development and caring about jobs of certain company and institution.¹ Earlier, managing was consisted of direct relationship manager – subordinate, but today, management is consisted of teams that decide about business on low, middle and top level. There is a tendency for barking down function walls and informal organizational structure. As the result of that, some companies have made a new type of organizational structure, for example from function oriented to process oriented organizational structure (Shipyard Uljanik).

Knowledge is the sum of accepted knowledge about nature, community, history and man. It is acquired through education, introducing and experience, transfer of thoughts and learning. Knowledge is always expanding and changing alongside with the development of man and community where it belongs. It has a big importance in recent time and it is appearing and accenting as a leading factor of manufacturing, primarily if it comes out from the actual revolution of science and technics.² There are different definitions of knowledge and recently it is a very modern notion, but often happens that it is misunderstood. In order to understand it correctly it will be better explained in sequence.

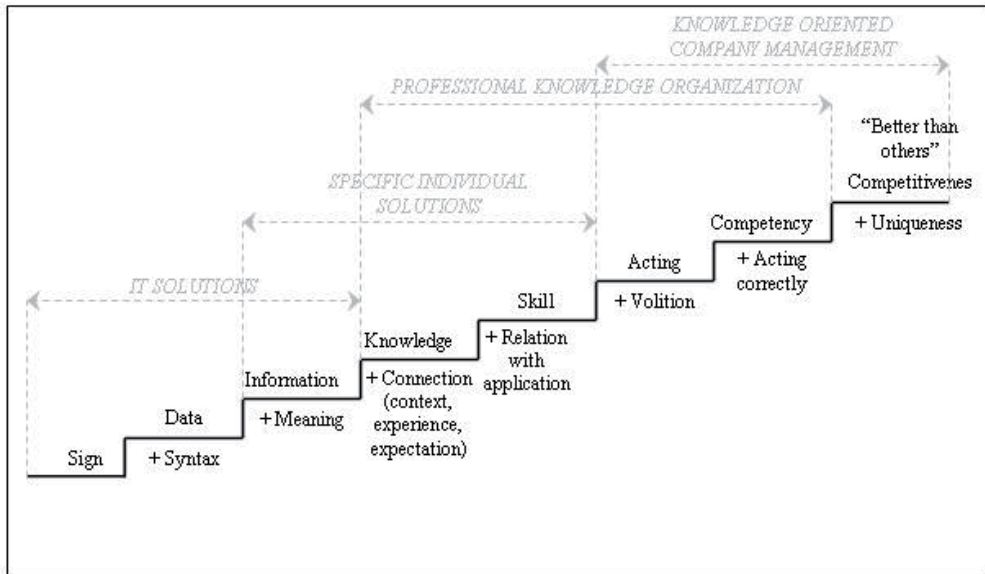
In picture 1 it is visible that data and information are on the 2nd and the 3rd step on the scale of knowledge, while knowledge finds its place on the 4th step of this scale. Hierarchically the bottom level is data that becomes information through adding meaning to it, which connected with context, experience and expectation, convert to knowledge. So, knowledge can't be equal to information neither information can have the same value as data. It is very important to understand the real meaning of these three notions. It is considered that data and information are enough to make a good decision. On the other hand, managing based on data and information that don't have the value of knowledge can't result as a good decision.

Michael Polany distinguishes knowledge as explicit and tacit or experience knowledge.³ Explicit knowledge is that knowledge that can be found in books and that can be learned through the education process, for example technical specification, drawing and so on. During employment, the explicit knowledge is not the only thing needed, this is understood, but there is also the need for explicit knowledge.

¹ Dragičević, A., Dragičević, D.: *Leksikon ekonomije i informatike*, Informator, Zagreb, 1999., Page 724

² Ibid., Page 780.

³ Frappaolo, C.: *Knowledge Management*, Capstone Publishing, Oxford, UK, 2002., Page 10



Picture 1 – Emphasis per steps of knowledge levels.

Source: North, K.: *Wissensorientierte Unternehmensführung – Wertschöpfung durch Wissen*, Wiesbaden: Gabler, 1998., Page 41

This knowledge is personalized, private and it consists of someone's experience, his/her own value, opinions and skills. It is very hard to uncover this knowledge because it is hidden in the person and it is not expressed even though it has a bigger value than explicit knowledge. On one hand, if it is not applied it doesn't have any value, but on the other hand, applied and not documented or transferred to someone else, loses its value when the person is retired. In this way company losses because in the tacit knowledge of the employees lies its own value. It is needed to answer a question: How to transfer and share knowledge and experience of employees and how to storage their knowledge?

3. KNOWLEDGE MANAGEMENT

Knowledge management refers to capturing, organizing, storing and disseminating the knowledge and experiences of individual groups within an organization.⁴ The purpose of managing the knowledge is connecting those who need knowledge with those who possess knowledge. It must be in a function of fulfilment the company goals. When we talk about knowledge it can be found two ways of understanding it:

1. Knowledge Management is Human Resource Management (managing human knowledge) and

⁴ <http://www.netlingo.com/right.cfm?term=KM>, NetLingo The Internet Dictionary, September 2006.

2. Knowledge Management is managing data and information (ICT5).
Picture 2 shows us two different ways of understanding knowledge that depends of working area (track). Picture 2 shows that knowledge = object which is managed, in the IT track, when in the People track knowledge = process.

Knowledge Management		
Track/Level	IT-Track Knowledge = Object	People-Track Knowledge = Process
Organisation Level	“Re-engineers”	“Organisation Theorists”
Individual Level	“AI-specialists” “E-specialists”	“Psychologists”

Picture 2 – Knowledge Management matrix.
Source: <http://www.sveiby.com/articles/KnowledgeManagement.html> (September 2004.)

Even if this grid is to oversimplify things, it captures one essential issue: There are paradigmatic differences in our understanding of what knowledge is. The researchers and practitioners in the “Knowledge = Object” column tend to rely on concepts from Information Theory in their understanding of Knowledge. The researchers and practitioners in the column “Knowledge = Process” tend to take their concepts from philosophy or psychology or sociology. Because of their different origins, the two tracks use different languages in their dialogues and thus tend to confuse each other when they meet.⁶

Depend on how we understand knowledge and how we define it, it’s shape is different and also the product of it’s application. For example, if we use our knowledge in the IT track, the product of this knowledge can be some software solution, when, application of knowledge in the People track can be a new solution for the organizational structure of the company.

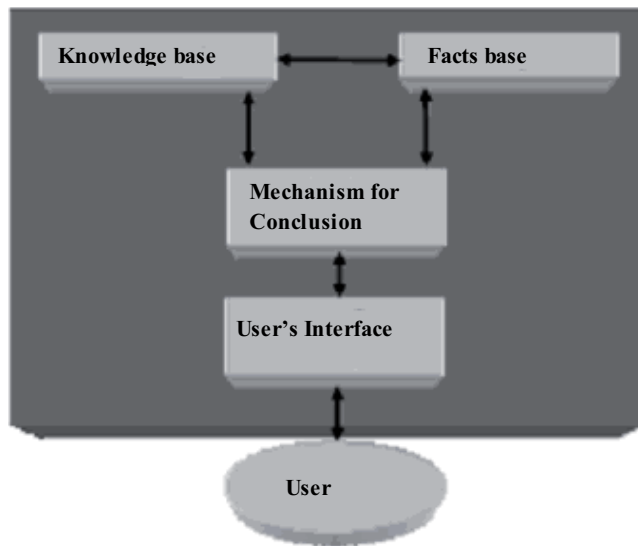
⁵ Informational Communicational Technology
⁶ <http://www.sveiby.com/articles/KnowledgeManagement.html>, Knowledge Management, September 2004.

4. KNOWLEDGE MANAGEMENT IN THE CONTEXT OF ICT MANAGEMENT

Knowledge Management in the context of ICT Management refers to manage data and information. According to this, we can say that knowledge in this working area is an object that we can transfer, storage etc. What is important for managing data and information in this working level is that they are good structured and ready for analyzing, so that everything is ready for the decision process. For this purpose exists extra dimensional data storage which is a part of newer computer systems. Older computer systems had just the operational part and classical data storage based on relational model, which couldn't generate data in real time. That was retarding the decision process. Newer computer systems have incorporated extra dimensional data storage that poses all collected data from different sources that can be searched, analytically arranged, advised and so on, which simplifies the decision making. These kinds of systems are called Expert Systems and they are part of Artificial Intelligence – AI.

Expert systems are computer programs based on knowledge from some expert domain with the goal to help experts in solving the problem. They are part of decision support systems and they use the knowledge of experts. They come to conclusion using knowledge in symbolic way and can find approximate solution even though the data about the specific problem are not complete and can explain how they got the solution. They are suitable in situations where there is no an algorithmically solution, and those are weakly structured problems.⁷

⁷ Umjetna inteligencija i ekspertni sustavi, <http://efzg.globalnet.hr/UserDocsImages/INF/varga/Umjetna%20inteligencija%20i%20ekspertni%20sustavi.pdf#search=%22%22Ekspertni%20sustavi%22%22> , rujun 2006.



Picture 3 – The Structure of Expert Systems.

Source: <http://efzg.globalnet.hr/UserDocsImages/INF/varga/Umjetna%20inteligencija%20i%20ekspertni%20sustavi.pdf#search=%22%22Ekspertni%20sustavi%22%22> (September 2006.)

From the picture 3 is visible that the structure of expert systems is consisted from two different bases and the mechanism for conclusion. Facts base poses specific elements of knowledge about some problem, when the knowledge base poses documented solutions from previous problems. Those two bases are in interaction between themselves and in interaction with the mechanism for conclusion. Mechanism for conclusion uses rules and facts that exist in the system and on this basis concludes and solves the problem.

The purpose of expert systems is to support the deciding process. Solutions contained in the knowledge base are available in a conceivable way to everyone involved in the decision process. It is possible to get the response to an enquiry in the real time in few seconds.

In this way, installing the expert system, operational data base (of older version of computer systems) is not anymore burdened with complex enquiry so the system works faster and more effectively.

5. KNOWLEDGE MANAGEMENT IN THE CONTEXT OF HUMAN RESOURCE MANAGEMENT

Knowledge management in the context of human resource management refers to manage knowledge, skills and human competencies. On the picture 1 it is shown hierarchical relation between knowledge, skills and competency. Knowledge is on the fourth step knowledge levels and on half way to competitiveness. It means that individuals inside the organization, beside knowledge, must poses skills, must act according to them and must poses competencies so that the company in which he/she works would achieve the precondition of competitiveness. We can say that this is a strategy of knowledge management in the context of human resource management.

It is important, for companies, to find the experts for specific fields and to use their knowledge and experience that has to be transferred to the person that will continue to work in the same field. In this way, when someone is retired, collective company knowledge does not get lost because the expert has transferred his/her knowledge and experience to the younger colleague who continues where he/she has stopped. Working in this way is called mentoring and usually requires five to ten years of working together, so that knowledge and experience can be transferred in a bigger measure. Only in this way it can be possible to retain someone's tacit knowledge in the company.

There are also situations when it is impossible to work in this way because the company is situated in few locations. The solution for this problem is in different software, on – line communication, intranet and so on, which are the basic resources for information, knowledge and experience transfer through working in the virtual network. This way of communication functions through virtual network on which many people's work is based and they are connected through intranet and communicate by making enquiries. That's how is the group of people that are interested in the same specific field (job, projects) created, where they solve same problem through working together. When some problem is solved it has to be documented and saved in the knowledge base and it is always accessible in to the person that will need it in the future.

It is also important to say that beside knowledge there is a need for the development of the employee's skills so that company would develop on it's way to competitiveness.

6. KNOWLEDGE MANAGEMENT IN CROATIAN COMPANIES

According to procurable resource here is a list of companies that manage the knowledge of their employees:

- ✓ PODRAVKA⁸,
- ✓ HRVATSKA ELEKTROPRIVREDA⁹,
- ✓ ERICSSON NIKOLA TESLA¹⁰,
- ✓ PLIVA¹¹,
- ✓ ULJANIK¹²,
- ✓ KONČAR¹³.

The companies from the list develop human resource management, value the employee's knowledge and increase the level of collective knowledge to generate

competitive advance. People make the company, create the image of the company, it's corporate culture and they are the reason the company functions, that's why it's important to see their qualities and work on their weaknesses so that they can improve and in that way develop the company and insure it's existence in the recent market conditions.

Using the list of companies above it will be shortly explained the knowledge management in Pliva. As a company, they made a web page with a purpose of developing knowledge management (www.strix-portal.com). Their way of knowledge management is based on the SNA methodology (Social Network Analysis¹⁴).

Picture 4 shows the virtual network based on the SNA methodology. The way they share knowledge and how is it created its simple:

- ✓ The network is active and in this way who ever connects to it will know what everyone knows,
- ✓ The network is available (the response on an enquiry is received in few seconds),
- ✓ There is a possibility of deeper understanding of the problem and it's interpretation,
- ✓ In the network there are secure and confident relations.

In this way it is formed the informal organizational structure which allows communication outside from the function walls, which improves communication in the company and decrease the number of mediators in communication.

⁸ <http://www.hatz.hr/hrv/skupovi/znanje/matijevic.pdf#search=%22Upravljanje%20znanjem%20u%20Hrvatskoj%22>, September 2006.

⁹ www.hep.hr/publikacije/energija/index.html, September 2006.

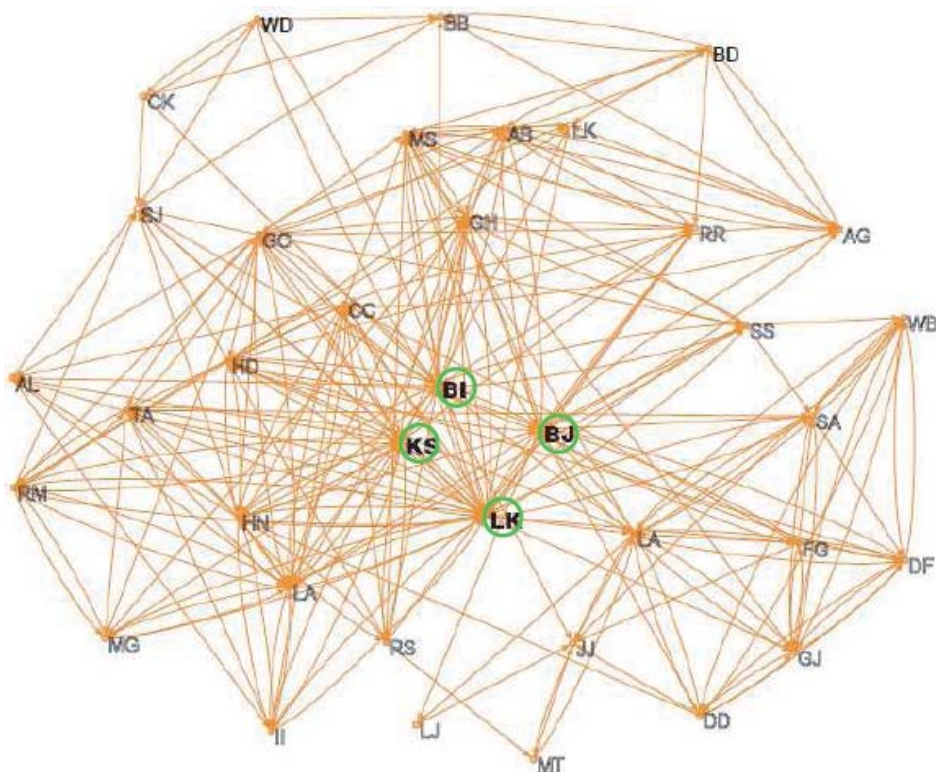
¹⁰ <http://hgk.biznet.hr/hgk/fileovi/108.pdf>, September 2006.

¹¹ www.strix-portal.com, September 2006.

¹² <http://www.privredni-vjesnik.hr/index.cgi?A=I&SIF=00002&BR=003346&DA=20040405>, September 2006.

¹³ <http://www.hatz.hr/hrv/skupovi/znanje/car.pdf#search=%22KON%C4%8CAR%20prema%20ekonomiji%20znanja%22>, September 2006.

¹⁴ Social Network Analysis, http://www.nelh.nhs.uk/knowledge_management/km2/social_network.asp, September 2006.



Picture 4 – The example of the virtual network based on SNA methodology.

Source: <http://www.gbsit.hr/newsattach/94/HRKM.pdf?PLIVAweb=10b6be8643777cac468a9507a0faf3bd#search=%22Upravljanje%20znanjem%2C%20Pliva%22> (September 2006.)

Končar also activated the initiative in knowledge management through collaboration with the academically association, different faculties from the same field, through establishment of it's own institute and so on. Knowledge management of their employees functions through:

- ⊕ Acquiring knowledge through:
 - ✓ Applied researches in the laboratory and in real conditions,
 - ✓ Literature, conferences and fairs (the own networked library),
 - ✓ Extra education through different seminars and postgraduate studies,
- ⊕ Applying knowledge through development of new products and services,
- ⊕ Valuation of knowledge by measuring the realized value added,
- ⊕ Responsibility for applied knowledge through the system of expert and science development,
- ⊕ Knowledge sharing with customers through diagnostically analyzing and studies,
- ⊕ Using knowledge from environment through the collaboration with academic associations,

⊕ Supporting creativity and competitive spirit through business organizations with institutes as profit centres with focusing on developing projects for now and future customer needs.¹⁵

Between these companies, there is also Uljanik that has a similar way of managing the knowledge of their employees and develops valuation of people and their knowledge, skills and experiences. Their applied method is called VAICTM¹⁶ (Value Added Intellectual Coefficient), of professor Phd. A. Pulić. In this method there is a relation of investment and obtained and in this way is measured the efficiency of using physical, financial and human resources.

7. CONCLUSION

Human knowledge is the key of success in the recent market competition, as on Croatian also on a global market. Knowledge is the result of human work, experience and acting and there is a need of managing it because the winner is only the best, the one whose product is unique.

Strategy to attain the goals of the company lies in knowledge management and valuation of human resources. The differences between companies make the people with their competences, creativity and innovativeness. So our task is:

- ✓ To detect the employees potential,
- ✓ To motivate them,
- ✓ Encourage them in the things they do good,
- ✓ Guiding the employees with the purpose of increasing the level of their competences because they are the precondition of competitive company,
- ✓ To invest in their knowledge,
- ✓ To invest in informational communicational technology as a necessary infrastructure of every company and
- ✓ All said upward guide to realize the goals, mission and vision of the company.

Successful Croatian companies activate big initiatives in promote the human knowledge and knowledge management. There emerges the need for valuating the knowledge because it is the key for generating the competitive advantage on the market.

¹⁵ <http://www.hatz.hr/hrv/skupovi/znanje/car.pdf#search=%22KON%C4%8CAR%20prema%20ekonomiji%20znanja%22> (rujan 2006.)

¹⁶ <http://www.vaic-on.net/start.htm>, rujan 2006.

SOURCES

1. Dragičević, A., Dragičević, D.: Leksikon ekonomije i informatike, Informator, Zagreb, 1999.
2. Frappaolo, C.: Knowledge Management, Capstone Publishing, Oxford, UK, 2002.
3. Izvor: North, K.: Wissensorientierte Unternehmensführung – Wertschöpfung durch Wissen, Wiesbaden: Gabler, 1998.
4. NetLingo The Internet Dictionary, <http://www.netlingo.com/right.cfm?term=KM>, September 2006.
5. Knowledge Management, <http://www.sveiby.com/articles/KnowledgeManagement.html>, September 2004.
6. Artificial Intelligence and Expert Systems, <http://efzg.globalnet.hr/UserDocsImages/INF/varga/Umjetna%20inteligencija%20i%20ekspertni%20sustavi.pdf#search=%22%22Ekspertni%20sustavi%22%22>, September 2006.
7. <http://www.hatz.hr/hrv/skupovi/znanje/matijevic.pdf#search=%22Upravljanje%20znanjem%20u%20Hrvatskoj%22>, September 2006.
8. www.hep.hr/publikacije/energija/index.html, September 2006.
9. <http://hgk.biznet.hr/hgk/fileovi/108.pdf>, September 2006.
10. www.strix-portal.com, September 2006.
11. <http://www.privrednivjesnik.hr/index.cgi?A=I&SIF=00002&BR=003346&DA=20040405>, September 2006.
12. <http://www.hatz.hr/hrv/skupovi/znanje/car.pdf#search=%22KON%C4%8CAR%20prema%20ekonomiji%20znanja%22>, September 2006.
13. Social Network Analysis, http://www.nelh.nhs.uk/knowledge_management/km2/social_network.asp, September 2006.
14. Pliva, Upravljanje znanjem, <http://www.gbsit.hr/newsattach/94/HRKM.pdf?PLIVAweb=10b6be8643777cac468a9507a0faf3bd#search=%22Upravljanje%20znanjem%2C%20Pliva%22>, September 2006.

LAW

THE ABUSE OF THE DOMINANT POSITION WITHIN THE INTERNAL MARKET OF THE EUROPEAN COMMUNITY: FROM THEORETICAL ASSUMPTIONS TO PRACTICE

Dr. Justyna Maliszewska-Nienartowicz
Jean Monnet Centre for European Studies
Nicolaus Copernicus University in Toruń, Poland¹

OVERVIEW

The competition policy of the European Community does not concentrate on the “market power” of enterprises. Instead of that it uses the terms: “domination of the undertaking in the market” and “the abuse of the dominant position”. There is no doubt that such a position distorts free competition as it limits the freedom of activities of other market participants. Therefore, the art. 82 of the Treaty establishing the European Community (the EC Treaty) predicts that “any abuse by one or more undertakings of a dominant position within the common market or in a substantial part of it shall be prohibited as incompatible with the common market insofar as it may affect trade between Member States”.

Thus, the prohibition predicted in art. 82 of the EC Treaty is subject to three conditions: the domination of the undertaking in the market, the abuse of this dominant position and its affection on trade between Member States. The aim of the paper is to analyse them in details. However, they are not define in the Treaty or Community legislation. The most important source of information on these conditions can be found in the decisions of the Commission and the judgements of the European Court of Justice and the Court of First Instance. As a result the main method used in preparing the paper is the analysis of the decisions and judgments and the formulation of general conclusions stemming from them.

It is expected that this analysis shows what is meant by “the relevant product and geographical market”, what are the indices of the dominant position and when we can talk about its abuse. The presentation of all these factors takes into account the circumstances of concrete cases. In other words, it is not abstract but shows how the art. 82 is used in practice.

Key words: dominant position in the internal market, product and geographical market, market shares, barriers to market entry, super-dominance, the abuse of the dominant position

¹ Reja 25, 87-100 Toruń, tel.: + 48 56 611 49 34, e-mail: mal-nie@econ.uni.torun.pl;

The author is also a holder of the scholarship from the Foundation for Polish Science

1. INTRODUCTION

In literature the art. 82 (previous art. 86) is treated as “the second of the twin pillars of the competition policy established under the EC Treaty” (e.g. Goyder, 1993: 339; Weatherill, 1996: 395). Its objective is to eliminate all forms of competition distortions made by a dominant firm which abuses its position. Thus, it is primarily aimed at the control of the conduct of a single firm, while art. 81 of the EC Treaty primarily concerns anti-competitive agreements between undertakings, decisions of the associations of undertakings and concerted practises. It can be seen that both provisions complement each other and therefore can be called twin pillars of the EC competition policy.

There is no doubt that dominant firms may act independently on the market – dictate the level of prices, the conditions of the supply of products etc. The existence of a dominant position can have positive economic advantages, for example enabling undertakings to pursue an adventurous research and development policy. This can even lead to keeping down the prices and improving the quality of their products (compare, Dashwood and Wyatt, 1993: 437). However, there is also another scenario – economically powerful firms may choose to charge high prices or refuse to supply products to customers. Therefore, their conduct must be controlled.

It should be underlined that in EC law the dominance alone is not prohibited. The European Court of Justice indicates that: “A finding that an undertaking has a dominant position is not in itself a recrimination but simply means that, irrespective of the reasons for which it has such a position, the undertaking concerned has a special responsibility not to allow its conduct to impair genuine undistorted competition on the common market” (Michelin, C-322/81). In other words dominant undertakings have to be careful about their behaviour and they cannot abuse their position.

According to the art. 82 “any abuse by one or more undertakings of a dominant position within the common market or in a substantial part of it shall be prohibited as incompatible with the common market insofar as it may affect trade between Member States”. Therefore, in deciding whether any particular action falls within this provision, the most important conditions are:

1. the existence of a dominant position (this position has to be evaluated in the connection with relevant market);
2. the abuse of this position;
3. the effect on trade between Member States.

If these conditions are fulfilled, then an undertaking is in breach of art. 82. It should be noticed that there is no opportunity for an exemption to be sought from the application of this provision (the situation differs from that which exist in the case of art. 81). However, it does not mean that there is no scope for flexibility in the application of art. 82 - the concept of abuse is a flexible one and will usually be determined after careful analysis of each situation (compare Furse, 2002: 189). Therefore, it is important to see how the Commission and European courts (the European Court of Justice and the Court of First

Instance) evaluate particular cases of dominance and its abuse. The cases will be presented under three main headings. Firstly, the problems connected with the dominant position will be discussed – its definition, criteria, the existence on the relevant market. Secondly, the question of the abuse and its examples will be presented. Finally, effect on trade between Member States will be considered.

2. DOMINANT POSITION

2.1. Concept

The dominant position is not defined in the Treaty. However, the European Court of Justice clarified the meaning of this concept. It held that: “the dominant position relates to a position of economic strength enjoyed by an undertaking which enables it to prevent effective competition being maintained on the relevant market by giving it the power to behave to an appreciable extent independently of its competitors, customers and ultimately of its consumers. In general, a dominant position derives from a combination of several factors which, taken separately, are not necessarily determinative” (United Brands, C-27/76). This means that the Court attaches the concept of dominance with the economic power of the undertaking, in particular its ability to act on the market in an independent way.

The undertaking takes the dominant position on the market if it controls a considerable part of this market. However, it does not mean that the possibility to compete has to be eliminated. In *Hoffman-la Roche* (C-85/76) the European Court of Justice stated that the dominant position “does not preclude some competition, which it does where there is a monopoly or quasi-monopoly, but enables the undertaking which profits by it, if not determine, at least to have an appreciable influence on the conditions under which that competition will develop, and in any case to act largely in disregard of it”.

It can be seen that the concept of the dominant position is based mainly on the independence of the undertaking on a particular market. Therefore, the process of determining the existence of a dominant position in a particular case normally should comprise two stages: the definition of relevant market (product, geographical and temporal) and the assessment of the strength of the undertaking in question on that market (see Dashwood and Wyatt, 1993: 441).

2.2. The relevant product market

The analysis of the Commission decisions and judgements of the European courts leads to the conclusion that generally it is in the interest of a defendant undertaking to describe the product market as broadly as possible and for the Commission to define it narrowly. Since the more narrowly the market is defined, the greater the market share of any undertaking will be (Furse, 2002: 191).

The European Court of Justice has described the relevant product market in many

cases. It underlines that „the definition of the relevant market is of essential significance, for the possibilities of competition can only be judged in relation to those characteristics of the products in question by virtue of which those products are particularly apt to satisfy an inelastic need and are only to a limited extent interchangeable with other products” (Continental Can Company, C-6/72). Thus, products have to be so characteristic that it is possible to tell them apart from other products.

Moreover, the European Court of Justice states that “the concept of the relevant market in fact implies that there can be effective competition between the products which form part of it and this presupposes that there is a sufficient degree of interchangeability between all the products forming part of the same market in so far as a specific use of such products is concerned” (Hoffmann-La Roche, C-85/76). Thus, the most important factor in defining the relevant product market is that of substitutability. This can be analysed from the perspective of both consumers and suppliers but it seems that the Court concentrates more on buyers’ needs.

It also adds that “an examination limited only to the objective characteristics of the relevant products cannot be sufficient: the competitive conditions and the structure of supply and demand on the market must also be taken into consideration” (Michelin, C-322/81). This means that many factors have to be evaluated in order to define the product market.

Goyder (1993: 347) tries to list other relevant elements in this field. On the one hand, the attitudes of buyers to any closely matching substitutes, their technical qualities, composition and price range should be considered. On the other, the existence of barriers to entry to the market and the ability of undertakings to switch production from one type of goods to another without substantial capital expenditure or delay should be taken into account.

It can be seen that it is not easy to state if a product forms the relevant product market. Therefore, the analysis of this question remains a central issue in the majority of cases under art. 82. Some examples of the European Court of Justice’s reasoning is presented below.

United Brands (C-27/76) was one of the first cases in which the Court used the substitutability test. It concerned the supply of bananas to some of the Member States. According to the Commission, the product market consisted of bananas of all varieties, whether branded or unbranded but United Brands company argued that bananas formed part of the general market for fresh fruit. The Court considered many factors *inter alia* “seasonal substitutability in general between banana and all the seasonal fruit” and characteristics of bananas. It concluded that “a very large number of consumers having a constant need for bananas are not noticeably or even appreciably enticed away from the

consumption of the product by the arrival of other fresh fruit (...) consequently the banana market is a market which is sufficiently distinct from the other fresh fruit markets”.

The similar ruling was given in the case of Michelin (322/81). Here, the applicant claimed that the definition of the relevant market on which Commission based its decision was too wide, inasmuch as in the eyes of the consumer different types and sizes of tyres for heavy vehicles are not interchangeable and at the same time too narrow inasmuch as car and van tyres are excluded from it although they occupy similar positions on the market. The Court, however, did not accept these arguments. It stated that “as far as replacement tyres are concerned the first point which must be made is that at the user level there is no interchangeability between car and van tyres on the one hand and heavy-vehicle tyres on the other”. Thus, only tyres for heavy vehicles formed the relevant product market.

However, there are also examples of cases in which the Court disagreed with the opinion of the Commission on the relevant product market. One of such cases was Continental Can (C-6/72) where the Court stated that: „in order to be regarded as constituting a distinct market, the products in questions must be individualised, not only by the mere fact that they are used for packaging certain products, but by particular characteristics of production which make them specifically suitable for this purpose”. As a result “a dominant position on the market for light metal containers for meat and fish cannot be decisive, as long as it has not been proved that competitors from other sectors of the market for light metal containers are not in a position to enter this market by a simple adaptation”.

2.3. The relevant geographic market

The determination of the relevant geographic market is important in two aspects. First, this criterion is implicitly mentioned in art. 82 of the EC Treaty – there must be an abuse of a dominant position “within the common market or in a substantial part of it”. Secondly, the geographic definition of the market shows how many other competitors must be taken into account and this affects the assessment of the economic power wielded by the undertaking concerned. In general, the more extensive the market, the more diluted is the undertaking’s economic power and the less likely it is that it will be found to be dominant (Bridge and Lasok, 1994: 630).

There is no doubt that in determining the relevant geographic market one should take into account the economic importance of the area rather than its size. This was underlined by the European Court of Justice in the case of Sugar (joined cases 40-48, 50, 54-56, 111, 113, 114/73): “for the purpose of determining whether a specific territory is large enough to amount to a substantial part of the common market within the meaning of art. 82 the pattern and volume of the production and consumption of the said product as well as the habits and economic opportunities of vendors and purchasers must be considered”. It can be seen that in defining a relevant market for the purpose of art. 82 of the EC Treaty it is necessary to identify the specific territory within which the interplay of supply and

demand is to be considered (Dashwood and Wyatt, 1993: 446).

The European Court of Justice also takes into account the conditions of competition on the market. As a result the dominant position should be referred to “a clearly defined geographic area in which the product is marketed and where the conditions of competition are sufficiently homogeneous for the effect of the economic power of the undertaking to be able to be evaluated” (United Brands, C-27/76).

The Court of the First Instance presents the same attitude. In the case Tetra Pak II (T-83/91) it stated that “the definition of the geographic market accordingly calls for an economic assessment; that market can thus be defined as the territory in which all traders operate in the same or sufficiently homogeneous conditions of competition in so far as concerns specifically the relevant products, without being necessary for those conditions to be perfectly homogeneous”.

Thus, the relevant geographic market can consist of several Member States, only one of them or even a substantial part or region in a Member State. This was confirmed by the jurisprudence of the European Court of Justice e.g. in United Brands (C-27/76) the Court agreed with the opinion of the Commission that six Member States (Federal Republic of Germany, Denmark, Ireland, the Netherlands, Belgium and Luxembourg) amounted to a substantial part of the common market. In Michelin (C-322/81) the relevant geographic market was confined to the Netherlands since the Commission decision concerned only a Dutch subsidiary of Michelin. Similarly, in British Airways (T-219/99) the Commission took the view that the relevant market was the United Kingdom market for air travel agency services and the Court of the First Instance agreed with that opinion. There were also such cases in which a part of the Member States amounted to the relevant geographic market e.g. in Sugar (joined cases 40-48, 50, 54-56, 111, 113, 114/73) the European Court of Justice accepted southern Germany as such an area.

2.4. The relevant time period

Markets change over time (particularly in terms of technological innovation) and market power must be sustained in the face of such possible changes over a considerable period of time for a position of dominance to be established under art. 82 (Tillotson, 1996: 353).

However, the European courts very rarely treat this criterion as a decisive one. One of the examples is the case of Benzine Petroleum (C-77/77), where the European Court of Justice took into account the oil crisis and general shortage of petroleum products in the period 1973-74. It stated that “the application to the Netherlands Companies (Aardolie Belagen Gemeenschap BV) by Benzine Petroleum a rate of reduction identical or very close to that applied to its traditional customers would have resulted in a considerable diminution of the deliveries which those customers expected”. As a result the Court held that Benzine Petroleum did not abuse the dominant position in relation to AGB and

annulled the decision of the Commission.

Generally the Commission's determination of the temporal constraints over which the relevant market is defined is not likely to be successfully challenged, though there may be arguments as to the duration of the alleged abuse (Furse, 2002: 198).

2.5. The strength of the dominant undertaking - the main criteria of dominance

There are many factors which should be taken into account in order to conclude that a dominant position exist on a given market. Most of them refer to the structure of the market. The conduct of an undertaking can also be treated as an indicative of dominance. However, the European Court of Justice does not accept that size and turnover alone could be such indicative (Goyder, 1993:341).

The most important criterion of dominance is the undertaking's share in the relevant market. The role of market share was underlined by the European Court of Justice e.g. in the case of *Hoffman-la Roche* (C-85/76, § 41): "although the importance of the market shares may vary from one market to another the view may legitimately taken that very large shares are in themselves, and save in exceptional circumstances, evidence of the existence of a dominant position". Generally the European courts' approach appears to be that a market share of 70 per cent and above will certainly constitute a dominant position; a share of 50-70 per cent will raise a presumption of dominance; a share of 40-50 per cent may support a conclusion of dominance; and a share below 40 per cent is unlikely to permit the finding of dominance unless other evidence is overwhelming (compare Furse, 2002: 202). However, the Commission in its 10th Report on Competition Policy suggested that an undertaking could still be found to enjoy a dominant position with a market share as low as 20 per cent.

Another important criterion is connected with the position of competitors. It may be helpful to compare market shares of the undertaking deemed to be in the dominant position with market shares of its competitors. Undertakings with relatively low market shares, 30 to 40 per cent, may still be in the dominant position if the rest of the market is highly fragmented, so that none of the other participants constitutes a serious threat to its independence (Dashwood and Wyatt, 1993: 452). Therefore, the European Court of Justice takes this criterion into account together with market shares of the undertaking. In the case of *United Brands* (C- 27/76) it stated that UBC's share of the relevant market (40 %- 45%) did not automatically show that UBC controlled the market. According to the Court also the strength and number of its competitors should be considered. This comparison led the Court to the conclusion about UBC's "preponderant strength" as its shares in the market were several times greater than that of *Castle and Cooke* which "is the best placed of all the competitors" (§ 111 and 112).

Financial and technical resources of an undertaking should also be taken into account. There is no doubt that a firm with large financial and technical resources will be in a position to adapt its market strategy in order to meet and drive out competitors (Steiner, 1994: 172). Financial strength can assist the undertaking in maintaining dominance through large-scale advertising of its product e.g. United Brand's "Chiquita" banana. It can also allow the undertaking to remove a competitor and so increase its dominance by means of persistence price-cutting, which the smaller firm cannot match (Tillotson, 1996: 354). Financial resources also allow the undertaking to develop new technologies and as a result have a better position on the market.

The next criterion of dominance is called vertical integration. It was considered and developed in the case of United Brands (C-27/76). The European Court of Justice noticed that "UBC was an undertaking vertically integrated to a high degree". It owned large plantations, the bananas were carried from the place of production to the port of shipment by its own means of transport, including railways, it also owned refrigerated warehouses in key ports throughout Europe. Moreover, UBC led special advertising campaigns concerning "Chiquita" bananas. Thus, the vertical integration was evident at each of the stages: the production, packing, quality control, advertising and selling of bananas. According to the Court this allowed UBC to consolidate its economic strength.

The possession of know-how and intellectual property can also be taken into account while determining a dominant position of an undertaking. This was considered as a relevant factor e.g. in the case of *Hoffmann-La Roche* (C-85/76). The European Court of Justice held that its "technical lead over competitors is due to the fact that it is the proprietor of several patents relating to vitamin A, even after the expiration of these patents, is a further indication that it occupies a dominant position" (§ 51). Similarly, in the case of *Tetra Pak II* (T-83/91) the Court of the First Instance noticed that this undertaking could protect its 90% share in aseptic packaging through its patent rights – "the documents before the Court indicate that Tetra Pak has patented the basic technology which it has developed in relation to machines, cartons and processes" (§ 10).

Behaviour of the undertaking on the relevant market is also considered as an indicative of dominance e.g. in *United Brands* (C-27/76) the Commission noticed that this undertaking "enjoyed a degree of general independence in its behaviour on the relevant market which enabled it to hinder to a large extent any effective competition" (§ 59). However, behavioral evidence has only additional character. Thus, it should not normally be treated as sufficient in itself to establish the existence of a dominant position (Dashwood and Wyatt, 1993: 454).

Barriers to entry into the market may hinder or prevent competition from arising and so reduce or eliminate its threat to the dominant firm ((Tillotson, 1996: 356). Thus,

apart from the examination of the present situation on the market the question of potential competition should be assessed. Why is it so important? Since an undertaking could have large market shares and yet not be able to reap significant profits if it is constantly aware of the danger of potential competition (compare Furse, 2002: 203). However, it is not easy to examine the barriers to market entry as it requires a dynamic and long-term view of the market structure. Moreover, many barriers have to be taken into account e.g. geographical, financial, technical. They were examined in the case of *United Brands* (C-27/76) and the European Court of Justice stated that: “UBC’s economic strength has enabled it to adopt a flexible overall strategy directed against new competitors establishing themselves on the whole of the relevant market”. According to the Court: “the particular barriers to competitors entering the market are the exceptionally large capital investments required for the creation and running of banana plantations, the need to increase the sources of supply in order to avoid effects of fruit diseases and bad weather, the introduction of an essential system of logistics which the distribution of a very perishable product makes necessary, economies of scale from which newcomers to the market cannot derive any immediate benefit and the actual cost of entry made up *inter alia* of all the general expenses incurred in penetrating the market” (§ 122). This was a detailed analysis of barriers to entry into bananas market but usually the Commission and the European courts do not examine them in such a way. They just state that “barriers to entry are particularly high” or even do not take this criterion into account. Therefore, both the Commission and European courts are criticised for giving undue weight to such barriers and particularly for failing to take a long-term view as to the prospects of market entry (Steiner, 1994: 173).

2.6. Super-dominance

The differences in market power of the firms may result in different levels of dominance. Hence, the space for the doctrine of super-dominance is created, which entails the assumption that the same behaviour is deemed to be more abusive the larger the dominance of the undertaking in question is (see Appeldoorn, 2005: 655). There is no doubt that “super-dominant” undertakings have special responsibilities on the market.

This was underlined in the opinion of the Advocate General Fennelly in the case of *Compagnie Maritime Belge* (Joined Cases 395 and 396/96 P): “Article 82 cannot be interpreted as permitting monopolists or quasi-monopolists to exploit the very significant market power which **their super-dominance** confers so as to preclude the emergence either of a new or additional competitor. Where an undertaking, or group of undertakings whose conduct must be assessed collectively, enjoys a position of such overwhelming dominance verging on monopoly, comparable to that which existed in the present case ... it would not be consonant with **the particularly onerous special obligation affecting such a dominant undertaking** not to impair further the structure of the feeble existing competition” (§ 137 of the opinion). However, the European Court of Justice did not use that phrase in its judgment though it condemned the behaviour of the undertaking in

question.

It is obvious that super-dominant firms have a greater impact on competition than regular dominant firms. However, there are some problems with the practical application of the concept of super-dominance. They concern both the economic and legal aspects. It should be noticed that super-dominant firms are left with less room to compete the larger they grow. They must refrain from competition, otherwise they risk being found guilty of contravening art. 82 of the EC Treaty (Appeldoorn, 2005: 656). Another problem is that the assessment of super-dominance is based rather on the size of the undertaking than on its behaviour which is incompatible with the basic attitude of the European Court of Justice. Finally, the art. 82 is infringed only if an undertaking abuses its dominant position. This means that even if it enjoys super-dominance of the market, this factor alone cannot make it fall foul of art. 82 (Appeldoorn, 2005: 656).

All of these problems will have to be considered by the Court of the First Instance while judging the case Microsoft (T-201/04, pending case). The Commission in its decision took into account that this undertaking takes “an overwhelming dominant position” and imposed a fine on it and an obligation to disclose portions of technical information to its competitors.

3. THE ABUSE OF THE DOMINANT POSITION

3.1. Concept

Art. 82 of the EC Treaty prohibits the abuse of the dominant position but its definition is not given in this provision. It only predicts that “such abuse may, in particular, consist in:

- a. directly or indirectly imposing unfair purchase or selling prices or other unfair trading conditions;
- b. limiting production, markets or technical development to the prejudice of consumers;
- c. applying dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage;
- d. making the conclusion of contracts subject to acceptance by the other parties of supplementary obligations which, by their nature or according to commercial usage, have no connection with the subject of such contracts”.

Thus, the art. 82 gives the examples of abusive practices. Decisions of the Commission and judgments of European courts confirm that there are many other practices which can have such a character. The range of cases decided under this article shows that the concept of abuse is wide, capable of covering variety of policies and actions that depart from normal competitive and commercial practice (Goyder, 1993: 350).

The European Court of Justice underlines that “the abuse is an objective concept relating to the behaviour of an undertaking in a dominant position which is such as to influence the

structure of a market where, as a result of the very presence of the undertaking in question, the degree of competition is weakened and which, by recourse to methods different from those which condition normal competition in products or services on the basis of the transactions of commercial operators, has the effect of hindering the maintenance of the degree of competition still existing in the market or the growth of that competition” (see Hoffman- La Roche where this statement was made for the first time). It can be seen that this is a broad concept which covers many different practices. The main types of abusive conduct are presented below but this is not a comprehensive list.

3.1. Examples

3.1.1. Pricing policies

Price competition is one of the most visible on the market. Generally, undertakings can be attacked for too high prices, which are a matter of exploiting a position of strength, for too low prices, termed ‘predatory pricing’ and for setting different prices for different customers (Furse, 2002: 238). Therefore, these main kinds of pricing policies will be discussed.

Excessively high price is defined by the European Court of Justice as the one which bears no reasonable relation to “the economic value of the product” (*General Motors Continental*, C-26/75). Prices charged by General Motors for its exclusive inspection service for second-hand Opel cars were found excessive. However, the undertaking showed that “it very quickly reduced the charge for the inspection ... and refunded the excess to the parties concerned” (§ 19). Therefore, the European Court of Justice did not treat General Motor’s conduct as the abuse of the dominant position.

The question of excessively high prices was also considered in the case of *British Leyland plc* (C-226/84). The Court confirmed that “an undertaking abuses its dominant position where it has an administrative monopoly and charges for its services fees which are disproportionate to the economic value of the service provided” (§ 27). British Leyland charge excessive fees for the approval certificates for left-hand drive cars and therefore abused its dominant position.

Predatory pricing is used by undertakings in order to drive out potential competitors out of the market - the prices of goods and services are reduced, if necessary below cost. Thus “the purpose of the dominant firm’s price-cutting is to preserve its long-run monopoly by frightening off potentially serious competition. The dominant firm is therefore quite willing to accept losses in that particular market for the time being – losses which can absorb since it is earning high profits in other markets” (Hay and Morris, 1991: 580). At the beginning consumers benefit from low prices but afterwards they become dependent on the dominant firm which can dictate the price conditions after capturing a larger share

of the market.

The question of predatory prices was considered in the case of *AKZO Chemie* (C-62/86). The European Court of Justice underlined that: “prices below average variable costs (that is to say, those which vary depending on the quantities produced) by means of which a dominant undertaking seeks to eliminate a competitor must be regarded as abusive. A dominant undertaking has no interest in applying such prices except that of eliminating competitors so as to enable it subsequently to raise its prices by taking advantage of its monopolistic position”. However, “prices below average total costs (fixed costs plus variable costs), but above average variable costs, must be regarded as abusive if they are determined as part of a plan for eliminating a competitor”. Those criteria were used in the case and the Court stated that AKZO Chemie abused its dominant position. This approach to predation can be presented in the following way:

Price below average variable costs	Abusive conduct can be assumed
Price above average variable costs but below average total costs	Abusive conduct can be assumed but it is necessary to establish if it aims to the elimination of competition
Price above average total costs	There is no abusive conduct

Discriminatory prices - a dominant undertaking may fall foul of art. 82 by charging different prices in respect of equivalent transactions without objective justification (Dashwood and Wyatt 1993: 462). This case is predicted in art. 82 point c.

The question of price discrimination was considered in the case of *United Brands* (C-27/76). The Commission accused UB of charging each week for the sale of its branded bananas – without objective justification – a selling price which differed appreciably according to the Member State where its customers were established. The European Court of Justice agreed that UB used discriminatory prices which placed certain distributors at a competitive disadvantage. Consequently, it stated that “the policy of differing prices enabling UBC to apply dissimilar conditions to equivalent transactions with other trading parties ...was an abuse of a dominant position (§ 234).

3.1.2. *Abusive discounts or rebates*

The normal function of a discount or a rebate is the encouragement of a customer to do business with a supplier on a regular basis (Goyder, 1993: 358). However, this kind of activities can be dangerous for free competition. Particular pressure can be exerted by ‘loyalty (fidelity) discounts’ and ‘target discounts’.

The first ones are granted by a dominant supplier on condition that the customer enters into an obligation to purchase all or a very high percentage of his requirements from the dominant firm (Tillotson, 1996: 360). Thus, the discount is given for the purchasing of

certain products exclusively from one undertaking.

In the case of target discounts the price reduction is conditional on the purchasing of an agreed quantity of products from the supplier during the reference period (Dashwood and Wyatt, 1993: 464).

Both kinds of discounts were the subject of the judgments of the European courts. In *Hoffmann-La Roche* (C-85/76) the European Court of Justice underlined that “the fidelity rebate is designed through the grant of a financial advantage to prevent customers from obtaining their supplies from competing producers; furthermore the effect of fidelity rebates is to apply dissimilar conditions to equivalent transactions with other trading partners in that two purchasers pay a different price for the same quantity of the same product” (§ 90). Thus, according to the Court they fell within art. 82 point c and an undertaking which applies a system of fidelity rebates abuses its dominant position.

The same can be said about target discounts which were considered in the case of *Michelin* (C-322/81). The Court stated that “it is an abuse of a dominant position within the meaning of art. 82 for an undertaking to bind dealers to it by means of a system under which discounts are granted according to the quantities sold during a relatively long reference period with the result that the pressure increases on the buyer to reach the purchase figure needed to obtain the discount”. It also added that the target discount in question limited the dealer’s choice of supplier and made access to the market more difficult for competitors.

It is now well established that rebate or discount schemes are acceptable only if they are non-discriminatory and therefore do not fall within art. 82 point c. This can be illustrated e.g. by the case of *Irish Sugar* (T-228/97) where the Court of the First Instance confirmed that “fidelity rebates granted by an undertaking in a dominant position are an abuse within the meaning of article 82 where their aim is, by granting financial advantages, to prevent customers from obtaining their supplies from competing producers”. In this situation several factors should be taken into account: “whether there is a tendency, through an advantage not justified by any economic service, to remove or restrict the buyer’s choice as to his sources of supply, to block competitors’ access to the market, to apply dissimilar conditions to equivalent transactions with other trading parties or to reinforce the dominant position by distorting competition” (§ 197).

3.1.3. Tie-in-sales

The provision of article 82 (d) covers all kinds of tying arrangements (“making the conclusion of contracts subject to acceptance by the other parties of supplementary obligations which, by their nature or according to commercial usage, have no connection with the subject of such contracts”). Tie-in-sales entail situations in which the purchaser will be supplied with one product only if another is also purchased. In its extreme position,

where tie-in-sales extend across the complete range of the dominant supplier, such a practice may be termed full-line forcing (Furse, 2002: 209).

There is no doubt that this practice distorts competition. Thus, in the case of *Hilti* (T-30/89) the Court of the First Instance underlined that “it is an abuse of a dominant position for an undertaking to refuse to supply certain products separately, to put pressure on independent distributors to cause them to adopt its discriminatory practices and to refuse to honour the guarantee attaching to tools sold by it where they have been used with consumables produced by other manufacturers”. As a result it confirmed the position of the Commission that Hilti, which required users of its patented nail cartridges to buy nails from it as well, infringed art. 82 of the EC Treaty.

Similarly, in the case of *Tetra Pak II* (T-83/91) the Court of the First Instance noticed that: “where an undertaking in a dominant position directly or indirectly ties its customers by an exclusive supply obligation, that constitutes an abuse since it deprives the customer of the ability to choose his source of supply and denies other manufacturers access to the market”.

3.2.4. *The abusive use of intellectual property rights*

The general position in competition law is that property rights cannot be asserted in such a way as to lead to an anti-competitive outcome (Furse, 2002: 214). However, sometimes undertakings use their intellectual property rights e.g. patent rights in such a way that they act as a barrier to market entry for new competitors and in this way they consolidate the strength of a dominant position.

This issue was considered in the case of *Tetra Pak I* (T-51/89). Tetra Pack acquired a group which held an exclusive patent licence for new and important technology relating to the sterilisation of milk cartons. This was held by the Commission to be an abuse of its dominant position in the market for liquid food packaging. The Court of the First Instance agreed with this opinion. It stated that although an exclusive patent licence was not *per se* an abuse, the circumstances surrounding the acquisition of it in this case had “the effect of strengthening the undertakings’ already very considerable dominance of a market where very little competition was found and of preventing, or at least considerably delaying, the entry of a new competitor into that market”. Thus, barriers to entry into the market were taken into account

However, the leading case in the field of abusive use of intellectual property rights was that of *Magill* (Joined cases C-241 and 242/91 P). Here the Commission found that broadcasters in Ireland abused their dominant position by refusing to grant licences for the publication of their respective weekly listings and thus exploiting the copyright they held in television programme listings. The European Court of Justice confirmed that

mere ownership of an intellectual property right could not confer a dominant position but “by force of circumstances appellants (RTE and ITP), enjoyed, along with the BBC, *a de facto* monopoly over the information used to compile listings for the television programmes ... thus they were in a position to prevent effective competition on the market in weekly television magazines” (§ 47). Therefore, it stated that “the appellants’ refusal to provide basic information by relying on national copyright provisions thus prevented the appearance of a new product, a comprehensive weekly guide to television programmes, which the appellants did not offer and for which there was a potential consumer demand. Such refusal constituted an abuse under heading (b) of the second paragraph of Article 82 of the Treaty” (§ 54).

It can be noticed that according to the Commission and European courts the exercise of an exclusive right by the proprietor may involve abusive conduct. However, the determination of an abuse is not automatic but depends on the circumstances of the case.

5.5.5. *Refusal to deal or supply and the “essential facilities” doctrine*

A dominant undertaking’s refusal to supply goods or services in the ordinary course of business or a refusal to supply except on very unreasonable terms may constitute a breach of article 82 (Tillotson, 1996: 361). The European Court of Justice underlines that such conduct can fall within the conditions of art. 82 points b and c, involving the limitation of markets to the prejudice of consumers and discrimination which might in the end eliminate a trading part from the relevant market (see *United Brands*, C-27/76, § 183).

The earliest case which concerned the question of refusal to deal was *Commercial Solvents Corporation* (Joined cases 6 and 7/73). Here CSC refused to supply Zoja with amnibutanol required for the manufacture of the derivative, ethambutol. This was the result of CSC’s decision to manufacture and sell the derivative on its own. The Commission stated that this was the abuse of the dominant position and the European Court of Justice upheld its decision. It noticed that: “an undertaking being in a dominant position as regards the production of raw material and therefore able to control the supply to manufactures of derivatives cannot just because it decides to start manufacturing these derivatives (in competition with its former customers) act in such a way as to eliminate their competition which in the case in question would amount to eliminating one of the principal manufacturers of ethambutol in the common market” (§ 25).

Similarly, in the case of *United Brands*, which was guilty of several abuses, the Court condemned its refusal to supply Olesen (a Danish distributor) with green bananas. It underlined that: “an undertaking in a dominant position for the purpose of marketing a product – which cashes in on the reputation of a brand name known to and valued by the consumers – cannot stop supplying a long standing customer who abides by regular commercial practice, if the orders placed by that customer are in no way out of ordinary” (§

182).

Refusal to supply a service can be illustrated by the case of *Télémarketing* (C-311/84). Here the problem was that a subsidiary of Radio and television Luxembourg ceased to accept spot advertisements involving an invitation to make a telephone call for further information unless its telephone number was used (see Korah, 1996: 118). The Commission condemned this conduct and the European Court of Justice upheld its decision. It stated that: “an abuse within the meaning of art. 82 is committed where, without any objective necessity, an undertaking holding a dominant position on a particular market reserves to itself or to an undertaking belonging to the same group an ancillary activity which might be carried out by another undertaking” (§ 27).

It is underlined that this case signalled a new approach by the Commission to a refusal to supply goods or services – it has begun to develop the “essential facilities” doctrine (Tillotson, 1996: 363). An “essential facility” is a facility or infrastructure without access to which competitors cannot provide services to their customers. The owner of an essential facility which uses its power in one market in order to protect or strengthen its position in another relating market, imposing a competitive disadvantage on its competitor, infringes art. 82. (compare Furse, 2002: 256).

The leading case which shows how this doctrine operates is now *Bronner* (C-7/97). Bronner was the publisher in Austria of a daily newspaper with a market share of 3,6%. It argued that it could not develop its own home delivery and that such delivery constituted “essential facility” to which it should have access (it wanted to use the delivery service of Mediaprint which was the publisher of papers with a market share of 46,8 %). However, the European Court of Justice, following the Advocate General’s opinion, held that there are other methods of distributing daily newspapers, such as by post and through sale in shops and at kiosks. “Moreover, it does not appear that there are any technical, legal or even economic obstacles capable of making it impossible, or even unreasonably difficult, for any other publisher of daily newspapers to establish, alone or in cooperation with other publishers, its own nationwide home-delivery scheme and use it to distribute its own daily newspapers” (§ 44).

Thus, in the literature it is stressed that the key elements are that: 1) access to the facility must be genuinely indispensable; 2) it is not possible practically to replicate the facility; 3) even by an undertaking of the same size and resources as the holder of the facility (Furse, 2002: 260). There is no doubt that it is not enough to show that without the facility the competitor would find it difficult to compete.

6. EFFECT ON TRADE BETWEEN MEMBER STATES

This is the last condition of the application of art. 82. It was described in detail in the case of *Hugin Kassaregister* (C- 22/78). The Court of Justice underlined that “the

purpose of that condition is to define, in the context of law governing competition, the boundary between the area respectively covered by Community law and the law of the Member States. Thus, Community law covers any agreement or any practice which is capable of constituting a threat to freedom of trade between Member States in a manner which might harm the attainment of the objectives of a single market between the Member States, in particular by partitioning the national markets or by affecting the structure of competition within the common market. On the other hand conduct the effects of which are confined to the territory of a single Member State is governed by the national legal order”.

In the case of *Gesellschaft* (C-7/82) the Court confirmed that “in order to determine whether trade between Member States is capable of being affected by an abuse of a dominant position in the relevant market for the purpose of art. 82 of the Treaty, account must be taken of the consequences for the effective competitive structure in the common market”. Thus, the most important is the affection of the dominant undertaking’s conduct on the structure of competition within the common market, in particular it cannot partition national markets. It should also be noticed that it is not necessary to prove that the abusive conduct has in fact appreciably affected trade between Member States. It is sufficient to show that it was capable of having that effect (*Michelin*, C-322/81).

In practice it not difficult to establish that most transaction are capable of affecting trade between Member States. Therefore, only rarely this condition precluded the application of art. 82. One of such cases was the above-mentioned *Hugin Kassaregister* (C-22/78) where the European Court of Justice held that its refusal to supply had no perceptible repercussions beyond the UK. Thus, Hugin did not breach the art. 82.

5. CONCLUSIONS

This short overview of selected judgments of the European courts shows their role in the application of EC competition rules. It must be underlined that the art. 82 (previous 86) of the EC Treaty is general and does not define the concepts to which it refers. Thus, it would be difficult to apply it in practice without the explanation what is meant by the dominant position, its abuse and the effect on trade between Member States.

The overview also confirms that both the Commission in its decisions and the European courts in their judgments interpret art. 82 of the EC Treaty in a broad and at the same time elastic way. Thus, the dominant position “relates to the economic strength enjoyed by an undertaking which enables it to prevent effective competition being maintained on the relevant market by giving it the power to behave to an appreciable extent independently of its competitors, customers and ultimately of its consumers” but the particular criteria of dominance can differ. Similarly, the list of abusive practices is an open one. As a result different kinds of conduct can be taken into account in the frames of art. 82.

This is a good solution as new practices connected with the technological development can be considered by the Commission and European courts. At the same time they have competence to develop new doctrines such as “super-dominance” and “essential facility” doctrines. These concepts can be shaped in a new way by the European courts as the *Microsoft* decision, which deals with both of them, is being appealed now (T-201/04, pending case). Therefore, it is stressed that the application of art. 82 has arrived at a defining moment and the European courts have the opportunity to shape these doctrines for the years to come (Appeldoorn, 2005: 658).

REFERENCES:

Books and articles:

1. Appeldoorn, J. (2005), “He Who Spareth his Rod, Hateth his Son? Microsoft, Super-dominance and Article 82 EC”, *European Competition Law Review*, 12, 653-658.
2. Bridge, J.W., Lasok, D. (1994), *Law and Institutions of the European Union*, London.
3. Dashwood, A., Wyatt, D. (1993), *European Community Law*, London.
4. Furse, M. (2002), *Competition Law of the UK and EC*, Oxford.
5. Goyder, J. (1993), *EC Competition Law*, Oxford.
6. Hay, D.A., Morris, D.J. (1991), *Industrial Economics and Organization Theory and Evidence*, Oxford.
7. Korah, V. (1996), *Cases and Materials on EC Competition Law*, London.
8. Steiner, J. (1994) *Textbook on EC Law*, London.
9. Tillotson, J. (1996) *European Community Law. Text, Cases and Materials*, London.
10. Weatherill, S. (1996) *Cases and Materials on EC Law*, London. Judgements:
 1. Case 6/72, Europemballage Corporation & Continental Can Company Inc. v. Commission of the European Communities [1973] ECR 215.
 2. Joined cases 6 and 7/73, Istituto Chemioterapico Italiano S.p.A. and Commercial

- Solvents Corporation v Commission of the European Communities [1974] ECR 223.
3. Case 26/75, General Motors Continental NV v Commission of the European Communities [1975] ECR 1367.
 4. Joined cases 40-48, 50, 54-56, 111, 113, 114/73, Coöperatieve Vereniging “Suiker Unie” UA and others v Commission of the European Communities [1975] ECR 1663.
 5. Case 27/76, United Brands Company and United Brands Continentaal BV v Commission of the European Communities [1978] ECR 207.
 6. Case 77/77, Benzine en Petroleum Handelsmaatschappij BV and others v Commission of the European Communities [1978] ECR 1513.
 7. Case 85/76, Hoffmann-La Roche & Co. AG v Commission of the European Communities [1979] ECR 461.
 8. Case 7/82, Gesellschaft zur Verwertung von Leistungsschutzrechten mbH (GVL) v Commission of the European Communities [1983] ECR 483.
 9. Case 322/81, NV Nederlandsche Banden Industrie Michelin v Commission of the European Communities [1983] ECR 3461.
 10. Case 311/84, Centre belge d’études de marché - Télémartketing (CBEM) v SA Compagnie luxembourgeoise de télédiffusion (CLT) and Information publicité Benelux (IPB) [1985] ECR 3261.
 11. Case 226/84, British Leyland Public Limited Company v Commission of the European Communities [1986] ECR 3263.
 12. Case 62/86, AKZO Chemie BV v Commission of the European Communities, [1991] ECR I-3359.
 13. Joined cases C-241 and 242/91 P, Radio Telefis Eireann (RTE) and Independent Television Publications Ltd (ITP) v Commission of the European Communities [1995] ECR I-743.
 14. Case C-7/97, Oscar Bronner GmbH & Co. KG v Mediaprint Zeitungs- und Zeitschriftenverlag GmbH & Co. KG, Mediaprint Zeitungsvertriebsgesellschaft mbH & Co. KG and Mediaprint Anzeigengesellschaft mbH & Co. KG. [1998]

ECR I-7791.

15. Joined Cases C-395/96 P and C-396/96 P, *Compagnie Maritime Belge NV and Dafra-Lines v Commission of the European Communities* [2000] ECR I-1365.
16. Case T-51/89, *Tetra Pak Rausing SA v Commission of the European Communities* [1990] ECR II-309.
17. Case T-30/89, *Hilti AG v Commission of the European Communities* [1991] ECR II-1439.
18. Case T-83/91, *Tetra Pak International S.A. v. Commission of the European Communities* [1994] ECR II-755.
19. Case T-228/97, *Irish Sugar plc v Commission of the European Communities* [1999] ECR II-2969.
20. Case T-219/99, *British Airways v Commission of the European Communities* [2003] ECR II- 5917.

(IN)VISIBLE HAND(S)

Predrag Zima, University of Osijek

ABSTRACT

In this paper, the author discusses the regulatory role of the state and legal norms, in market economy, especially in so-called transition countries. Legal policy, and other questions of the state and *free market* economy are here closely connected, because the state must ensure with legal norms that economic processes are not interrupted: only the state can establish the legal basis for a market economy. The free market's *invisible hand* is acting in questions such as: what is to be produced, how much is to be produced, for whom it is to be produced, how it is to be produced. During the transition period but also in the establishnig EU, the role of legal norms is much more important then it (is) would be expected: problems of transition are more connected with ethics and psychology, then with legislation.

Keywords: Law and economics, legal norms, (de)regulation, State

(IN)VISIBLE HAND(S)

1. INTRODUCTION *

Aside from this, *triumphing liberalism*¹ puts especially transitional countries before the dilemma: to rely, and how much, on the *invisible hand of the market* (Smith), that should regulate everything, or to deem it impossible to develop a free market or democracy without the existence of a minimum of social cohesion and solidarity for all and equality of initial opportunities², especially having in mind the problem of the need to adjust the legal system with the regulations in the states of the European Union in the conditions of globalization. Thinking about legal norms today, about the transition or transitions and about the role of legal standards in these processes actually means to mention a more or less coherent set of political, economic and legal *Gospels*. Some of these *gospels*, which have not changed since the middle of the 20th century, and some

¹ * This paper is inspired by the Slavoj Žižek's preface to the Communist Manifest on the occasion of its 150th publishing anniversary, Arkzin, Zagreb, 1998.

Šimac, N.: *Europski principi javne uprave*, UDD, Zagreb, 2002, p. 13.

² Šimac, *ibid.* p. 14

are even older, where the syntagm *Gospels* should be understood as the *folklore of capitalism* (Arnold) or in the postmodern sense as *discourse* (Berger and Luckman) or *concept*³. Also, the term *transitions* has also not been thought out in a uniform way, which makes it difficult to define terms in determining the subject of analysis. Different authors will, namely, define the transition quite diversely, and some, even respectable experts (B. Horvat)⁴ will even put it in question when it concerns the countries of south-eastern Europe. Here, it is certainly necessary to distinguish contractual obligations imposed by the possible membership in international organizations, which are, of course, a legal problem (adjustment of the legal system), from the issues relating to the problems arising from the polysemantic (fashionable), *postmodern* concept of globalization⁵, although a significant number of connections can be found between them.

Basic premise of transition are: 1/ mechanical determinism connected with 2/ the idea of progress (progressive evolutionism), which enables the making of epochal changes by means of the method of *rational* social engineering. These premises are not only theoretically unsustainable but also historically unfounded.⁶

One of the meanings of the term law⁷ is that, that the law is understood as one of the social orders which in its essence include **value**, **relation** and **coercion** embodied in the legal rule (norm)⁸. Law is a special form of norms important for questions of social regulation⁹, and it differs from other manifestations of norms in its aim, content and method. Legal rule should be looked at as the “formal framework of value contents (needs-values-aims)”, while social relation is taken as the “actual framework”¹⁰. On the

³ Županov, J.: Tranzicija i politički kapitalizam, Hrvatska gospodarska revija, December 1997, pp.1-9

⁴ Horvat, B.: Tranzicija i restauracija: Dvije alternativne strategije, Ekonomija/Economics, Year 6, Nr.1/1999, p. 1.

⁵ Cf. Pusić, E.: Globalizam i državna uprava, Politička misao, 1/1999 pp. 3-9.; Paić, Ž.: Globalizacija - postmoderna utopija, in Milardović: Globalizacija, Pan liber, 1999 “...It is clear to everyone that this is a new enchanting term, new all comprising spiritual “mantra” of fin de siècle - globalization. But, while postmodernism was an exclusive myth for chosen intellectuals, it seems that has a planetary power of fascination...” p. 202.; ...”The concept of globalization, as opposed to globalism and globality, denotes the state of transition and transformation of the world’s economic, political and cultural system. Globalization is therefore not the found situation but a process characterized by the movement towards some (un)determined goal...”p. 202.; similar ideas are found in Rosenau, J.: Kompleksnost i kontradikcije globalizacije, Third Program of the Croatian Radio, 53/54, translation: Boršić, M., published in Current History, 613/1997 “... understood as a process that lies in the very foundation, globalization is not the same as globalism that points towards the desire for such state of affairs, where values are accepted by or where they concern 5 billion people in the whole world...”

⁶ Županov, J., ibid.

⁷ The term “law” certainly has more meanings (both in everyday as well as in professional language). On different meanings of the term and of the concept, v.: Fletcher G.P.: Basic Concepts of Legal Thought, stipulative definition - Visković, N.: Pojam prava, Logos, Zagreb, 1981, p. 47. “Law is the process of mutual conditioning and implying of interpersonal behaviors and value and normative points of view that qualify and direct this behavior. Law is a specific social reality, normatively arranged according to historical values “.; further: Miličić, V.: Opća teorija prava i države, Pravni fakultet Sveučilišta u Zagrebu, vol. I, 1994; Pavčnik, M.: Teorija prava, Cankarjeva založba, Ljubljana, 2001; Vrbanić, D.: Država i pravo, Golden marketing, Zagreb, 2003.

⁸ Miličić, V. Opća teorija prava i države, Pravni fakultet Sveučilišta u Zagrebu, vol. I, 1994, p.10

⁹ Pusić, E.: op.cit., 1986, p. 102

¹⁰ Miličić, V., op.cit., p. 40

other hand, the unity of the system of rules and social relations following these rules (understood as positive law) that exist in the modern society and relate to the creation and distribution of important economic, political, cultural and other goods and loads.¹¹

The term regulation (Lat. *regulatio*, management, setting in order) is used¹² for the activity of systematic legitimate influencing on the behavior of people according to previously set criteria. Ever since the beginning of their existence, human societies have been trying to regulate the behavior of their members, mainly in three¹³ ways: 1/through establishment of rules and their stabilization in expectations, under the pressure of uncertainty in natural surroundings; 2/through establishment of rules and their selection by the authorities in the political subsystem of the society; 3/through the establishment of rules and their acceptance for rational reasons.

All of these three ways are existing and feasible in the circumstances of the so-called globalization, so that Pusić's *trichotomy* proves to be a constant value even and in the circumstances of changing paradigms and radical breaking of the bonds between *postmodernity* and *modernity*. It is emphasized that all three ways are equally original and that they are not mutually exclusive, but that, on the contrary, they function side by side. Regulation itself is an activity marked by durability, and it derives from the conscience of people, and thus carries tracks of all subsystems of consciousness: normative, cognitive, aesthetic, amalgamated in the connative motivation, under circumstances, frequently charged with emotions.¹⁴ Every human activity, even the spontaneous one, is characterized by some direction; therefore direction is inherent to the notion of activity. All this nevertheless does not mean that actions will actually function in this way, but, anyway, it will mark the expectations. In the world of regional and global interdependence, it is necessary to raise the questions of coherence, of sustainability and responsibility of national entities (states) which make decisions (laws) or *regulate*.¹⁵ This direction can be previously determined with regard to some criterion, so that this preliminary orientation *determines* the direction of human activities.¹⁶

2. NEW SOCIETIES, INFORMATION TECHNOLOGY AND LEGAL PROBLEMS

In short, the origin of legislative politics must necessarily be connected with the state, i.e. with its legislative activity and with the character of law as the most important legal act, while today it could also be conditionally spoken about the legislative politics of the

¹¹ Padjen, I.: Pravne pretpostavke znanosti o modernim društvima, Naše teme, 7-8/1988. p. 1878

¹² Pusić, E.: Društvena regulacija, Globus, Zagreb, 1989:149

¹³ Pusić, E.: Država kao institucija, RAD-HAZU, 473/1986

¹⁴ Op.cit., Pusić, E.: 1989:149

¹⁵ Held, D.: Democracy and The Global Order: From the Modern State to Cosmopolitan Governance, Polity Press, Cambridge, 1995, Filip Višnjić, Beograd, 1997. p. 33

¹⁶ Petković, S., et.al.: Prilozi za studij sociologije, Pravni fakultet Zagreb, 1987

European Community. Legal standards are the means by which people make efforts (and partially succeed) to achieve such a position in legal relations that will satisfy their interest, their values and the aims of justice, peace, security, legality, etc. in the organization and distribution of social powers and goods¹⁷. Directly related to the above problems, there is also the issue of legislative politics, under which concept we could understand a conscious, planned and directing human activity of creating law (regulations and other general legal acts). Principally, it has its wider and its narrower meaning, where the wider meaning could consist of the formulation of basic goals (values) that are intended to be realized, while the narrower meaning could be relating to the very preparation and creation of legal rules making their contents.

Here, in the conditions of transition and globalization, the *range of decisions* is reduced; namely, decisions of *quasi*-regional or *quasi*-supranational organizations, such as the European Union, NATO or International Monetary Fund, determine specific limitations in decision making, which is of course questionable from the viewpoint of the fundamental ideas of democratically constituted societies.¹⁸ Especially prominent here is the European Union, i.e. the Council of Ministers that has at its disposal legal instruments (regulations and directives) allowing it to create and conduct the politics characterized by a minimum of responsibility towards national states.¹⁹ Globalization should be observed as a process, and it is frequently understood as the last stage in the process of constant social change. Reasoning about globalism today go in the two directions²⁰: one holds globalism to be the radicalized continuation of the European modern, while others consider globalism as a *new historical paradigm* as defined by Kuhn. One of the basic issues of both sides is the analysis of a national, liberally and democratically organized state where the first consider that the national state will spread into a universal cosmopolis, while the other believe that the national state will disappear as the model of organization of society (Rodin, 1999:83.) In the first phase of the European information society, European Community and its member countries have directed their attention towards the creation of essential legal regulations. Next phase has been directed towards deregulation and liberalization. Through abolition of monopoly in this field, new legal and political frameworks will be created that will enable an efficient market competition.²¹ Realization of the new legal framework for telecommunications from 1st January 1998²² and opening important market segments (mobile and satellite connections, use of cable TV network for telecommunications and alternative infrastructures) have made the economic development more favorable.

¹⁷ Visković, N. op.cit. 1981:258

¹⁸ Held, D., op.cit. p. 33.

¹⁹ Held, D., op.cit. p. 137 "... most important of all are regulations that have the status of law, regardless of further negotiations between member states..."

²⁰ Rodin, D.: Globalizam: nastavak moderne ili nova paradigma, Polit. misao, 1/1999, p. 83

²¹ Bodiroga-Vukobrat, N.: Informatičko društvo i Europska unija, Informatologija 32, 1999, 1-2, 85-88

²² Europa i globalno informatičko društvo, Preporuke Vijeća Europe (Bangemann Report) Bruxelles, 1994

The efficacy of law (laws) is seen as the measure of influence on legal consequences (effects) in some social relations, and towards some individuals in law, whereby some values²³ are being confirmed or denied. Which values are being confirmed or denied in the conditions of globalization and transition? Problems arise if these values on the levels of national states (communities) differ more significantly from those promoted by globalization processes; these are problems concerning the efficacy²⁴ of legal standards, either through preventive efficacy – by portending coercion, or by application of coercion subsequently (*ex post facto*). In such situations of incoherence of protected values, the problem is the efficacy of standards arising from the “feeling”, consciousness about the culture of law (Miličić, 1999:171). It is quite clear that the efficacy in indicated situations will disputable to a significant extent. Legislative systems of the states are under significant influence of multinational companies because of the growing mobility of international capital, globalization of the market and integrated economy²⁵, which also *distorts* their task to regulate, among other things, the activities of these companies, so that any form of regulation becomes the victim of the market, because the transnational companies are motivated and guided by profit (Robinson²⁶). Global capital has set the requirements before national states and they have answered by creation of new forms of legality, which is by no means interpreted only as the loss of certain state control (Sassen²⁷), but these new forms of legality are the crucial mechanism of intergovernmental consensus on the globalization path, and the sovereignty remains one of the characteristics of the system but is located in more *institutional arenas*.

2. 1. Route 66 or

Here, of course, the issue of the **reach of state regulation**, or of intervention (through legislature) arises, namely, according to the opinions of some authors, this issue should vary, in the ideal case, in consistence with the degree of progress in the constitution of the civil society²⁸, meaning primarily that it should be in consistence with the degree of (re)capitalization of management, depending upon the possibility to maintain the national community as an independent subject in the world community of nations. The today's situation could be described as the existence two tendencies: on one hand, legislature remains the most important state function, and legal act remains the most significant form of creating law²⁹, the tendency is to codify the sources of law and to unify civil, commercial and penal legislature, and on the other hand, it is expected of the state to restrict itself to

²³ Miličić, V., 1994. op.cit. p. 170

²⁴ Miličić, V. ibid. p. 170. “Efficacy of law means the law as it really is in the nature”

²⁵ Benoist, de A.: Suočavanje s globalizacijom, translation (Lehpamer, M.) of the text: Confronting Globalization, Telos, 108/1996, published in Third Program of Croatian Radio, 53/54, 1998

²⁶ Cit. prema Benoist, supra., p. 115

²⁷ Sassen, S.: Losing control? - Sovereignty in an Age of Globalization, New York, Columbia Univ. Press, 1996, cit. According to Meštrović, M.: Formalna ekonomija i stvarni povijesni svijet, in Globalizacija i njene refleksije u Hrvatskoj, Ekonomski institut, Zagreb, 2001

²⁸ Babac, B.: Obnova hrvatskog građanskog društva...supra, 1994:139

²⁹ Comprehensive code books are created in particular fields (branches) of law.

the establishing of rules applicable on types of situations, and to leave individuals the freedom in everything that depends on the circumstances of time and place³⁰. It is further emphasized (Babac 1994:140) that, in this sense, it would be possible to distinguish three classes of empowerment and responsibility of the state as an institution, which would be of value for the constitution of the Croatian civil society as a project: 1/guarantee powers and responsibilities relating to a) maintaining order and safety of the community or group, b) securing the value of work, i.e. of money, in other words, providing a monetary and legal framework for the most effective and fairest entrepreneurial and market freedom, c) ensuring equality and fairness in bearing public duties and burdens; 2/ protective authorities and responsibilities relating to special protection provided by the state for endangered individuals, business companies or other specific kinds of national wealth, under the assumption that this does not take place at the expense/detriment of personal and market freedom of individuals; 3/ structural authorities and responsibilities relating to the constitution of various structures, i.e. of the *rules of the game*, for reaching a consensus, which would provide *just* external conditions for contests and for open competition³¹. Growing importance belongs to comparative research of law as well as to mutual bilateral or multilateral contracting between states for the purpose of standardization of legal rules.

In determining the area of stability, the law, namely, directs the rational human action, and in this way it also directs social order³², which actually takes place through these human actions. There are two different problems that may arise here: 1/the question of optimal volume of social relations regulated through legal rules and 2/the question of adaptation of the contents of legal rules to a specific place and time (Šimonović, 1990:695).

A simplified but unusual opinion about the legal system was given by Hart³³, according to whom the legal system is the machine (the device) for solving problems (*problem solving machine*). In regulation through law, there are two basic questions that may come up³⁴: 1/what is the **content** of these normative requirements that are put forward, or, respectively, what is the nature of the criterion by which standards intend to coordinate the behavior of the addressees, and 2/which **methods** are thereby applied in order to influence the behavior of people in the sense of specific regulatory criteria.

³⁰ Hayek, F. A.: Put u ropstvo, Kruzak, Zagreb, 2001, p. 104

³¹ Babac, B., *ibid.*, 1994:140

³² What is usually called social order "includes, as a minimum, relatively large chances of those comprised by that order to have their expectations fulfilled regarding the actions of other participants in that order, i.e., that the others behave according to certain inter-subjectively valid reasons or rules " and further, v. Padjen, I.: Pravne pretpostavke znanosti o modernim društvima, Naše teme, 7-8/1988. p. 1877

³³ H. L. A.: The Concept of Law, 92 in: J. Cohen and T. Gleason: Social research in communication and law, Sage Pub. 1990:33

³⁴ Pusić, E.: Sistematizacija iskustva u regulaciji pravom, Naše teme, Zagreb, 33 (12) 1989: 3472-3480

The degrees of the state's intervention into economically oriented activities can be divided³⁵ into:

a/ **regulation** (in its narrower sense) – when the state brings universally obligating rules and moreover controls the observation of these rules, for example within the complex of classic state functions;

b/ **intervention** – when the state passes the “the most varied” measures in which it not only acts as the **controller**, but also influences general terms of earning money and generally the distribution of values;

c/ **management** – when, as it is asserted, the state itself performs economic and other work, for example through state-owned companies.

All are these degrees are, more or less, liable to the influence of global mutual relations (of nation states), the result of which is a decision making process that takes into consideration all these mutual influences (Held, 1997:35). This is not considered as a special *novelty*, because this *network* of global interrelatedness has started to appear or began to be realized with the beginning of expansion of the world economy and the *modern state*: trade and wars have already 400 years ago shaped every aspect of both national politics and of the international system³⁶. New information and communication technologies have weakened the exclusiveness of state control over its territory, changing its power of *cultural control* and homogenization, and digitized communications, satellites and computer networks have weakened the state's control over the media³⁷.

3. RECHTSSTAAT AND THE RULE OF LAW³⁸

Regulation in general, and particularly the regulation through legal standards, is appreciated (evaluated) according to the extent in which it fulfills its *purpose* and according to the *price* paid for it. The most important achievement of the modern state is the establishment of the regime of **legal state**, the rule of law³⁹, meaning that in the relation between the individual and the authority there is the increasingly applied principle that all (both citizens and state bodies) are bound by the standards of one system of law. This assertion applies to all those states that strive towards the ideals of the *western civilization*, in spite of all critiques arising in this context.

³⁵ Babac, B.: Samoupravno odlučivanje i birokratska struktura, Pravni fakultet Osijek, 1986:158

³⁶ Gourevitch, P.: The second image reversed: the international sources of domestic politics, International Organizations, 1978, cit. According to Held, D. 1987, op.cit.”...Domestic and foreign politics are interlaced throughout the modern era: domestic policy must always be understood with respect to the background of international politics; the first is frequently the source of the latter. If we think about the politics of a monarch in the 16th or 17th century (for example, if we contemplate whether the king of France should be a Catholic or a Protestant), or if we want to understand why merchant routes from the East to the West have changed and how their change has influenced the structure of the cities, urban complexes and social balance...”

³⁷ Hirst, P. i Thompson, G.: Globalizacija, Liberata, Zagreb, 2001

³⁸ Title is the same as the translation of a part of the doctoral dissertation of F. Neumann: The Rechtsstaat and the Rule of Law, published in Vladavina prava, 3-4/1998

³⁹ Cf. Pusić, E.: Odgovornost za državu, Erasmus 22/1997

The syntagm *legal state* is frequently used in daily as well as in professional, oral and written communication, and it still cannot be claimed that the content of this syntagm is completely clear and unambiguous, and there are even some authors who suggest that it is pointless to emphasize such a syntagm⁴⁰. It is unquestionable that the term *legal state* has originated from German literature (*der Rechtsstaat*), from where it has expanded into other languages and cultures. Synchronously, in the Anglo-American theory appeared a term of similar content which was expressed by the syntagm *Rule of Law*^{41,42}. Both concepts emerged parallel with bourgeois revolutions, and were based on the ideas of rational and natural law, i.e. on the ideas of liberalistic foundations of the civil society, so that their meanings must be understood in that context. Understandably, both ideas have evolved throughout centuries, they have been adjusted to the new social circumstances, so that today it is frequently spoken about the *civil legal state*, or the *democratic legal state*. Furthermore, a more detailed research into the contents of these notions (their genesis) points to their existence “before them themselves”⁴³. For a more complete understanding of this concept it should certainly be kept in mind that: 1/ the rule of law, from the viewpoint of the individual, citizens, is regarded as the corpus of civil rights and freedoms which are guaranteed for everyone, through legal institutions and procedures; 2/ the legal system which is created by the state and whose implementation is guaranteed by the state, must satisfy the requirements of the legal order under the rule of law (not any legal system, but the one that satisfies the requirements of generality, availability, publicity, consistence, clearness, intelligibility, non-retroactivity, etc.); 3/ there must be principles for the bringing of general legal standards that will be applied equally (the legislative procedure under the assumptions of publicity, the existence of parliament and of an argumentation process).

G. Fletcher⁴⁴ emphasizes that continental (European) languages use one term to denote the idea of law in the sense of implementation of the laws passed by the legitimate authority (*Gesetz, loi*), and another term to denote the idea of law in a higher sense, the law that is being upheld because behind it there is the idea of law (*Recht, droit*). These different terms cause different concepts of the idea of rule of law: those who think that the rule of law means that the government is limited by rules, made by predetermined legitimate legislators, will be satisfied with the regulations that have been passed by the body determined for that purpose. This is what the Germans call *Gesetzesstaat* - rule of

⁴⁰ Cf. Ibid. Miličić, V.:1994, p.31: “However, I emphasize that the foundation, constitution and acting of the state is and should be formed and organized in legal rules and practically realized in keeping with the sense and the purposes determined by the principal social group – the authority of power in the state (in so far it is superfluous to extract, use and emphasize the syntagm of the so-called “legal state”, because if a state already in its suggested fundamental framework and content, in idea and in reality, does not contain the characteristics of “legality”, then it is not a state....”

⁴¹ Introductory on the rule of law v.: Miličić, V.: *Takozvana vladavina prava*, in: *Vladavina prava*, 3-4/1998, str 15-21

⁴² Which is a specifically English product and the combination of the ideas of superiority of the Parliament and the rule of law. v.: Neumann, F. *ibid.* p. 151

⁴³ Babić, D.: *Teorija i tehnika zakonodavstva*, unpublished manuscript, Osijek 1991

⁴⁴ For more details Cf. Fletcher, G.: *Basic Concepts of Legal Thought*, Oxford University press, 1996:12-”In English, we are never quite sure what we mean by the “rule of law”...

laws, where it is expected that the law be respected regardless whether it is “good or bad”. Those, on the other hand, who think that the rule of law is ideal for good management of the state, emphasize the role of **right** in the rule of law. The vision of a state founded on the rule of law is comprised in the German term *Rechtsstaat* - legal state. When we speak about the rule of law, we actually (according to the European terminology) speak about the rule of law in the higher sense, i.e. about the legal state. Unlike this, the English language is not so precise in determining the concept of the rule of law⁴⁵, namely, the only term used here is the term *law*, whereas the possible use of the term *right* is inadequate. Nevertheless, there is no doubt that the idea itself about the legal state emerged parallel with bourgeois revolutions, together with the idea of rational natural law so that it was the foundation of the liberalistic structure of civil society, and this is its classic meaning. Clearly, the concept of legal state can not be limited to this liberalistic principle. It can be said that legal state existed even before the “legal state”, that is, the idea existed even before the term itself that is related to *liberalism*. For the rule of law it is not of importance who had the most influence on the passing of the legal standard, whether it was the lobbies on the national level, or whether it was the international standard, a multilateral or bilateral contract between states. National states are the basic precondition for regulations, regardless whether these regulations are national (conditionally said autonomous) rules, or whether they are the implementation of international standards, the more so because only they have the possibility to coercively apply the standard.

4. “CUTTING (THE) ...HAND”: FRAMEWORKS OF STATE REGULATION

State is the central point for the rule of law, because it is the source of constitutional order by which it limits its own power and the powers of others through laws and regulations, thus insuring the minimum of (legal) safety.

The questions of true efficacy and the scope of state intervention have frequently been reduced to the question of all questions: *the purpose of the state*, and in that sense, it has been emphasized that this purpose can be twofold: promotion of happiness on one hand, or prevention of misfortune, on the other hand⁴⁶. As it can be concluded from what has been said so far, there is a strong bond between legal concepts and economic reality; law provides that necessary framework, creates the conditions, determines the rules of the game, it is a form of social regulation, and there is therefore the question of justification of use of the term state *intervention*⁴⁷, because in principally every form of regulation through laws by the state, i.e. the legitimate body, the legislator, one can speak about a specific form of intervention. Nevertheless, for conventional reasons, we shall keep the term *intervention*. Especially when the concept of the legal state is joined with the

⁴⁵ Ibid. Cf. Fletcher, G.: 1996:12

⁴⁶ W. von Humboldt, *supra* 1993:11

⁴⁷ Intervention, f. – is interfering with a process, changing of a situation through action; intrusion 2. operation, action by which the found situation is altered – according to: Anić/Goldštajn: Rječnik stranih riječi

concept of *social* state, which is found in the majority of democratic constitutions. Furthermore, in discussions about regulation and *intervention*, one must not forget some *fundamental regulatory* principles for the long-term moral strategy of any individual⁴⁸, and then also of communities (states): every activity must be directed at insuring the *survival* of human kind as a real communication community... Here, it is predominantly spoken about the state influence, although certain authority of regional and local communities in the bringing of legal standards can not be denied; however, the issues arising in that sense should be the topic of a separate analysis.

In the beginning of the 20th century, it has come to significant distancing from the ideals of legal state in democratic countries: most frequently because of class conflicts, with the intention to alleviate social differences, the states have intervened⁴⁹ more or less openly in areas that were previously out of their reach. On the other hand, some services were privatized and they received some powers that were earlier reserved only for the state. In the *great crisis*, the myth about rational self-regulation of capitalist economy was destroyed, and to eliminate its consequences, it was necessary to apply measures of state intervention. The power of political parties, bureaucratic organizations, corporations and their influence, are among the forces exercising pressure on the decision making process within the framework of the state-nation (Held, 1997:123), and on the international level, there are contradictions between ideas about the state that decides alone for itself on one side and the world economy, international organizations, military alliances, international rights on the other side, which impose restrictions upon the state in its decision making. In the new conditions, the power of the states as administrative and political agencies has reduced⁵⁰, which does not mean that their legislative and constitutional functions will be reduced in the same measure: one aspect of the state is directed towards results and it is a matter of political decision and enforcement (implementations) of such decisions through the administration, while the other aspect is procedural (adjectival) and concerns the role of the state as the regulator of social action in the widest sense, rules as the guide for all activities and constitutional order as the verdict between the competitive rights of corporative entities and citizens (Hirst/Thompson, 2001:291). Today, the opinion has prevailed about the necessity of some form of care for the so-called *positive prosperities*. In theoretical elaborations, the term state intervention is used as the synonym for industrial

⁴⁸ Apel, K.-O.: Das Apriori der Kommunikationsgemeinschaft (1976) cit. according to: Padjen, I.: (Ne) čudorednost (međunarodnog) prava, Dometi, Rijeka, 1988 p. 157

⁴⁹ The economist J. M. Keynes, whose ideas were implemented by American President Roosevelt (new Deal) with the purpose to overcome the consequences of the economic crisis 1929 – 1933, is believed to be the creator of the idea of state interventionism. These economic measures have generally been functioning until the mid 1970's. Especially important are Keynes' books: The End of Laissez Faire (1926), Treatise of Money (1930), Theory of Employment, Interest and Money (1936)

⁵⁰ Hirst, Thompson, 2001, op.cit. p. 291

politics⁵¹ in the sense of “planned effort of the state to change the production structure of the nation, i.e. to insure structural adaptation to changed conditions”⁵². A specific compromise has been established between the use of the *laissez faire* theory and the so-called structuralists, that is supporters of a larger influence of state on the economy⁵³. Decline of the influence of laissez-faire supporters began in 1873 after the crash of the Viennese stock exchange. This event was not given greater importance at that time, but later its true meaning was realized⁵⁴. Soon after this event, large liberal parties that have represented the idea of free market started to gradually come loose and to divide, while new groups have appeared: socialists-Marxists and socialists-anti-Semites, both anti-liberally oriented, and both opposing free market⁵⁵. Today, there are frequent demands for legal and efficient state, which is being connected with a number of facts: 1/ participating and living in the organized social community of state form; 2/ arranging internal relations through legal regulations; 3/ implementation of legal regulations in the manner in which they have been formulated and in adequate, for these regulations envisaged factual circumstances⁵⁶. In this, economic sense, the content of the notion of state intervention is polysemantic and on one occasion it is possible to subsume under it a number of measures of economic policy of a state, whereas on other occasions this concept can comprise only some specified activities, for example those aiming at the protection of national economy from foreign competition, and the like. The aim of industrial politics itself would be to redirect the course of private investments from some companies and branches towards some other companies and branches, i.e., to change the allocation of investments, supporting those branches and companies in which the private market disinvests⁵⁷. In this way (within some states) economic growth is targeted in the desired direction. This directing is frequently performed by selecting the branches that are going to be supported, and these are: either the winner branches, that is those that are expected to achieve high results or the loser branches, where the state support is actually used for their rehabilitation. In that sense, state measures undertaken for that purpose usually consist of the use of direct state investments, tax relieves, subventions, subsidized loans, and regulatory measures

⁵¹ Especially in the texts: Zagorka Brunsko: Suvremena kapitalistička država i njezin intervencionizam, Politička misao, 1/1990.; M. Kesner-Škreb: Teorijski okviri državne intervencije, Financijska praksa 19 (5) 1995:407-420; Ž. Kordej De Villa: Instrumenti i metode provođenja državne intervencije u Austriji, Financijska praksa 19 (5) 1995:421-437; D. Kuliš: Instrumenti i metode provođenja državne intervencije u Njemačkoj, Financijska praksa 19 (5) 1995:438-458; D. Jurlina-Alibegović: Prikaz državne intervencije u gospodarstvu Hrvatske, Financijska praksa 19 (5) 1995:561-570; etc.

⁵² F.G.Adams i L.R.Klein (Editors): Industrial Policies for Growth and Competitiveness - An Economic Perspective, 1985, cit. according to: M. Kesner-Škreb, supra 1995:407-420

⁵³ J.A.Vieg: The Role of Public Administration, in: Elements of Public Administration, Ed. F.Morstein Marx, Prentice-Hall, 1959:14

⁵⁴ For more details Cf.: Drucker, P.: Nova zbilja, Novi Liber, Zagreb 1992: 6 ff.

⁵⁵ Already in 1888, Chancellor Bismarck introduced state health insurance and compulsory pension insurance, which meant, in fact, the beginning of the realization of the “welfare state”, however, the first politician who had realized a socialist program and expropriated private gas factory, electric power plant and tram was not a Marxist but the anti-Semitic socialist Karl Luger, mayor of Vienna in 1896.

⁵⁶ Jelinić, S.: Kako izbjeći pravni vakuum, Privreda i pravo, 11-12 (30) 1991:740

⁵⁷ Kesner-Škreb, M.: supra, p.407

or nationalization⁵⁸. These regulations most frequently range between two extremities: on one hand neo-liberalism, understood in the tradition of laissez-faire, and on the other hand structuralism which emphasizes the imperfection of the market and, in that sense, the importance of state intervention. Keynes himself has emphasized that the state must also take care about the realization and maintaining of full employment, that it must use its measures to increase the inclination towards consumption and encourage investment activity, organize public works, while through the implementation of tax measures, the state can exercise influence on the redistribution of national income, etc⁵⁹. In the creation and setting up of rules, the state must restrict itself only to such rules that are applicable to *types of situations*, and individuals must be given the freedom in everything that depends on the circumstances of time and place (Hayek, 2001:104).

In terms of legal theory, here we need to recall the social function of legal standards in general, that is, of *legal aims* as the ingredients of law, where legal standards are the principal means (technique) for the realization of legal relations⁶⁰; however, it is here necessary to distinguish the *effective* role from the *intended* role of the legal standard in legal relations, which is actually the difference between the aim and the functions of norms in the society. Special is the question of legal standardization and state intervention in the conditions of the so-called transition and globalization⁶¹, it is, namely, the question whether the role of the state will become more significant or will it grow less in respect to other producers of legal standards if under globalization we consider the process of economic, social, cultural and political activity which exceeds the borders of national states⁶². The states of Central and Eastern Europe are in the phases of *re-modernization* and *re-rationalization* of their societies following the example of the western model, and they are now undergoing the process of transition in order to become similar to the Western European countries⁶³. Within this process, it is important to emphasize four elements significant for the economic success of a state⁶⁴: natural wealth, capital, technology and expert knowledge. Through law, states gain influence on all four elements of their development, with the remark that the latter two are in active changes, so that the law has not comprised comprehensively, and there is therefore permanent need to regulate relations arising from these elements. This process does not flow without difficulties and the role of law (state standards) in it is significant if not even crucial, in real, and especially in formal sense considering the adjustment of legal systems of particular states to the law of the European Community. Here *the circle could close*, because as sources of globalization the following are usually

⁵⁸ Ibid, p.408

⁵⁹ Zagorke Brunsco: *Suvremena kapitalistička država i njezin intervencionizam*, Politička misao, 1/1990, p. 81

⁶⁰ Visković, N., op.cit., 1981, p. 258

⁶¹ Globalization is written about in more detail by many authors and in Croatia a prominent place belongs to the editor Dr Anđelko Milardović who compiled and published the texts on globalization written by Robertson, Beck, Tapscott, Brzezinsky, Lechner, Paić etc.: *Globalizacija*, Pan liber, 1999

⁶² Milardović, A./ Njavro, Đ.: *Globalizacija*, Pan liber, 1999, p. 10

⁶³ Milardović, A./ Njavro, Đ. supra, p. 13

⁶⁴ Thurow, L.: *Glavom u glavu*, Mladost, Zagreb, 1993, p. 33-45

mentioned: economy, ideology and technology. After the World Wars, the economies of industrially developed states were under the influence of state politics which was trying to balance the relations between the capital and the workers and to ease their mutual tensions, so that Keynesian welfare state means direct efforts to mitigate undesirable effects of free market, and at the same time it is expected that conditions for economic growth and accumulation⁶⁵ will be created. The prevailing characteristic of most developed economies was the strong state regulation although the economies and the (national) role of the state in legal standardization mutually differed: the USA have had a relatively deregulated economy, while on the other side there were Sweden and Germany with markedly strong regulation, especially of social protection. Even in the economies of the countries of *four Asian tigers* and Japan, state regulations did not play a small role, but nevertheless it could not be said that they followed the model of the European *welfare states* (Šporer, 2001:19). Implementation of these principles would mean that the states of south-eastern Europe that have recently come out of the war must have a more significant influence and a greater importance than expected when the tasks of liberalization and introduction of market principles of transition are placed before them.

One of the basic tasks of the state today is to make the national environment more attractive for business operations and investment of capital, so that transparent regulations are made and laws that are in harmony with the laws of other states; road infrastructure and communications are being developed and labor force is being educated (Šporer, 2001:17).

Consequences (fundamental) of transition for the states which are passing through it could be reduced to those that also appear in globalization, and they can be classified as economic and political, where both categories have influence and significantly touch legal standardization. Economic consequences would be: growing inequality in incomes and growing differences in salaries, while, at the same time, in developing countries the number of people living in poverty is declining (Kearney, 2000; Šporer, 2001:16); the economic growth in the larger part of the world in the past three decades was positive, where greatest influence belongs to the *openness of economy* which must be made possible through legal norms and through their transparency. The problem is the high unemployment rate, especially in Europe, and the security of the employed persons is at a very low level and a special problem (Cohen, 1998) lies in the fact that the unemployed have no influence on negotiations (understandably) about wages. On the other hand, political consequences manifest themselves in the spreading of crises from one place to other⁶⁶, a part of the authority of national states is undermined due to the process of deregulation and internationalization of labor markets and capital, and the economic power of the states is endangered as well so that they can no longer perform their social role.

⁶⁵ Šporer, Ž., op.cit., p.8

⁶⁶ Ibid. p. 16

The question whether free flow of capitals is possible without unfavorable effects and insecurity, does not offer an unambiguous answer, but there is no dispute about the fact that new relations require new normative solutions, both on the level of national states and on the international level. On the other hand, *publishers' bestsellers* about globalization (Thurow, Rifkin, Greider) prove that the *idea laissez faire* of economic globalization has not kept the promise about the general growth of welfare⁶⁷, but has as the consequence quite the opposite from what had been promised: mass unemployment, stagnant salaries, erosion of arrangements of the politics of labor market, aggravation of social inequalities, growing tax load and expenditures on one hand and limitation of state transfers and services on the other hand. Today's societies are *nonmeritocratic* and one frequently comes across direct obvious injustices⁶⁸ or chaotic rewarding in the whole system, and the omnipresent uncertainty functions destructively on the social system.

5. CONCLUSIONS

The opinion that the role of the state, especially in legal standardization, will significantly diminish in the so-called global era is certainly questionable. It can be discussed (and it is being discussed) which of the state's function are going to diminish⁶⁹, which, after all, was happening in the 20th century as well, especially through the so-called public sector; it is also unquestionable that the process of globalization somehow transfers *the power* (responsibility) from the state to the companies (corporations)⁷⁰, but as far as the creation of legal standards (public law) is concerned, it is not visible that the state loses its powers, it is not visible who could – beside the state, or in stead of it - bring general regulations; on the contrary, these reasons could lead towards the strengthening of the legal regulation of precisely this (missing) responsibility. National states nevertheless do not lose the power of passing and implementing (enforcing) law and *order*, nor do these lose their territorial validity.

By accepting international standards, regulations, *laws*, globalization as a process *bites into* a part of the structures of modern statehood; this especially applies to standards

⁶⁷ Rieger, E. and Leibfried, S.: *Socijalnopolitičke granice globalizacije*, translation (Bilić, B.) of the article published in *Politische Vierteljahresschrift* (4/1997), *Treći program hrvatskog radija*, 53/54, 1998, in which the author supplements his thesis emphasizing that the situation is not the same in all countries, upon which he pays special attention to Germany "... The necessity of reforms in the social policies of developed welfare states was by no means caused by globalization, it only surfaced more clearly and more urgently thanks to the help of globalization..." p. 12.

⁶⁸ Young, J.: *The Exclusive Society-Social Exclusion, Crime and difference in Late Modernity*, London/Thousand Oaks/New Delhi, SAGE Pub., 1999, cit. According to: *Globalizacija i njene refleksije u Hrvatskoj*, translated by Matko Meštrović, Ekonomski institut Zagreb, Zagreb, 2001

⁶⁹ Mazlish, B.: *A Tour of Globalization*, *Indiana Journal of Global Legal Studies*, 1/1999

⁷⁰ Strange, S.: *Erozija države*, translation (Boršić, M.) of the text published in the periodical *Current History* 61/1997, *Treći program hrvatskog radija*, 53/54, 1998, "... there is also political doubt in relation to globalization. Long struggle for freedom and responsibility has made some countries responsible to their people, but globalization has also allowed international bureaucracies to undermine responsibility. None of the new non-state authorities is responsible; some are even transparent. Lack of democracy does not exist only in Europe, but also in the United States, in Japan and in the entire globalized economy.

relating to human rights, protection of the environment, free flow of capital, and the like. The created standards (international) make it easier for investors to place their money and successfully make profits, but the control of governments over the international trade has been reduced; through these standards, significant deregulations of economic branches have been achieved, collective property (public goods) has been transformed into goods, and the pressure on the states has been intensified for the purpose of reducing the support for social services (Carrier)⁷¹. Societies are becoming more mutually dependent because the problems that need to be solved are also becoming more universal. States have less control over ideas, but remain controllers of their own borders, of the movement of people and of the mobility of work force⁷², which can be observed even within the European Union itself, where national markets protect themselves from free flow of work force, at least for a defined period. Aside from this, the international law has in its establishment (enforcement) always relied on the states and their institutions⁷³, and there are no indications that this might change in the near future, because the *international community* does not possess legal mechanisms for the implementation of its order.

It can be concluded that no giant *leaps*⁷⁴ are to be expected in the development of law; here, we do not only have in mind national laws, i.e. laws of states-nations, but also the possible *supranational* laws. Legal pluralism, as a significant point of reference in *western* legal tradition, actually fits into the idea of *postmodernism* (individualization, rights of minorities and so on), and it can therefore not be expected of the lawyers to make any revolutionary moves⁷⁵ while writing laws; laws codify, i.e. systematize the existing legal practice, through laws, foreign legal solutions are received, or legal solutions that are compulsory due to the hierarchy of legal regulations or international conventions (EU). The development of technology, especially of computer technology (computer society) requires new legislative activity, and the problem which appears here is that the computer society and the so-called global society demand liberalization of the markets, while at the same time it imposes the need for uniform legal standardization. Liberalization influences the abolishing of monopoly in technological sphere but new requirements are being set for the purpose of a more complete protection of copyrights, protection of personality, protection of personal data, of children and youth and the like.

Certainly, the borders of state regulation (national) will partially determine the standards of European law, which, however, does not mean losing the role of the state as the addresser of legal standards. For example, it is pointed out that the threat for the

⁷¹ Carrier, G. J.: *Virtualism - A new Political Economy*, Oxford, NY: Berg, 1998, cit. According to: Meštrović, M.: *Formalna ekonomija i stvarni povijesni svijet*, in: *Globalizacija i njene refleksije u Hrvatskoj*, Ekonomski institut, Zagreb, 2001

⁷² Hirst, Thompson, op.cit., 2001 p. 280. ff. "...except for a class of internationally mobile, highly qualified professionals and desperate poor migrants and refugees who will suffer any hardship just to get away from unendurable conditions, the majority of the world's population can not move easily..."

⁷³ Fox, G. H.: *Strengthening the State*, *Indiana Journal of Global Legal Studies*, 1/1999

⁷⁴ Padjen, I., 1993:62, op.cit.

⁷⁵ Padjen, I., 1993:63, op.cit

workers (stability of the working relation) in the European Community does not come (as it is usually thought) from the market or investments, but from the decrease of the legitimate role of the state in an efficacious organization of the market⁷⁶.

In the same way in which, at the end of the 20th century, privatization, deregulation and liberalization were the dominant topics, the discussions at the beginning of the 21st century, after the failure of significant projects⁷⁷, are more and more lead about how to arrange efficacious public (state) regulation⁷⁸, which then means primarily legal regulation. Another question, however, is that of *reducing the powers of states-nations*⁷⁹, of the change of conditions in the surroundings founded on what is called *economic globalization*. In discussing these questions (Benoist) emphasizes the decrease of the possibility of state influence at the macro-economic level⁸⁰.

It is to be concluded that there is increasing diversity of methods of social regulation and diversity of sources of social standards, as well as of the modalities of their implementation⁸¹. It is the unquestionable task of politics (legitimate centers of power) to determine legal, social and ecological conditions that make economic activity socially possible and legitimate⁸², while the states are required (for example) to standardize and apply sophisticated scientific regimes in international trade and in the protection of human environment (ecology), in electronic trade, in digital communication; furthermore, expectations include the protection of human rights according to international standards, struggle against corruption, terrorism and organized crime, all of which suggests that the role of the state in legal standardization will not diminish significantly, but that it will be limited both by objective reasons, *global market* and the international (world) order, as well as by its own (subjective) weaknesses.

⁷⁶ Evans, J.: The rules of globalisation, OECD Observer, 19th November 2002

⁷⁷ Energy crisis (reductions) in California, British Railroads... Evans, J.: The rules of globalisation, OECD Observer, 19th November 2002

⁷⁸ Ibid., p.3.

⁷⁹ Benoist, de A.: Suočavanje s globalizacijom, translation (Lehpamer, M.) of the text *Confronting Globalization*, Telos, 108/1996, published in: Treći program hrvatskog radija, 53/54, 1998

⁸⁰ Benoist, de A., *ibid.*, p. 115.: "From the point of view of money, state influence is almost invisible because independent central banks control the interest/trade ratio and make decisions depending on the market. A country that decides to unilaterally raise its interest rates will influence a higher inflow of capital from those countries that offer higher profit. The scope of monetary mobilization of central banks is higher than the volume of transactions... When budget is concerned, the limitations of state freedom are similarly reduced due to an increased public debt that stops every stimulation not determined by the law. Finally, concerning industrial policy, the government has no other solutions for resisting the competition but to attract foreign businesses with special fiscal privileges, which leaves it at the mercy of multinational companies."

⁸¹ Pusić, E., *op.cit.* 1999, p. 5

⁸² Beck, In: Što je globalizacija, in: Milardović: Globalizacija, Pan liber, 1999, p. 64., emphasizes that we must distinguish between globalism, globality and globalization "...This distinction serves the purpose of breaking the territorial orthodoxy of the political and the social, that has come to existence with the project of national state of the first modernity, set up in terms of categories and institutionally as absolute..."

REFERENCES

1. Adams, F.G. i Klein, L.R. (Editors): *Industrial Policies for Growth and Competitiveness - An Economic Perspective*, 1985, cit. according to: M. Kesner-Škreb, supra 1995:407-420
2. Babac, B.: *Obnova hrvatskog građanskog društva - politička kontrola i državna uprava*, Pravni fakultet Osijek, 1994
3. Babac, B.: *Samoupravno odlučivanje i birokratska struktura*, Pravni fakultet Osijek, 1986
4. Babić, D.: *Teorija i tehnika zakonodavstva*, unpublished manuscript, Osijek, 1991
5. Benoist, de A.: *Suočavanje s globalizacijom*, translation (Lehpamer, M.) of the text *Confronting Globalization*, Telos, 108/1996, published in Treći program hrvatskog radija, 53/54, 1998
6. Brunsko, Z.: *Suvremena kapitalistička država i njezin intervencionizam*, Politička misao, 1/1990.;
7. Cohen, D.: *The Wealth of the World and The Poverty of Nations*, Cambridge, Massachusetts, MIT Press, 1998
8. Dragičević, A.: *Ekonomski leksikon*, Informator, Zagreb, 1991
9. Drucker, P.: *Nova zbilja*, Novi Liber, Zagreb 1992
10. Evans, J.: *The rules of globalization*, OECD Observer, 19th November 2002
11. Fletcher, G.: *Basic Concepts of Legal Thought*, Oxford University press, 1996
12. Fox, G. H.: Strengthening the State, *Indiana Journal of Global Legal Studies*, 1/1999
13. Gourevitch, P.: *The second image reversed: the international sources of domestic politics*, *International Organizations*, 1978. cit. according to: Held, D. 1987, op.cit
14. Hart, H. L. A.: *The Concept of Law*, 92 u J. Cohen i T. Gleason: Social research in communication and law, Sage Pub. 1990:33
15. Hayek, F. A.: *Put u ropstvo*, Kruzak, Zagreb, 2001
16. Hayek, F. A.: *Politički ideal vladavine prava*, Školska knjiga, Zagreb 1994
17. Held, D.: *Democracy and The Global Order: From the Modern State to Cosmopolitan Governance*, Polity Press, Cambridge, 1995, Filip Višnjić, Beograd, 1997, p. 33
18. Humboldt, von W.: *Ideje za pokušaj određenja granica djelotvornosti države*, In-

formator, 1993

19. Jurlina-Alibegović, D.: Prikaz državne intervencije u gospodarstvu Hrvatske, *Financijska praksa* 19 (5) 1995:561-570; etc.
20. Kesner-Škreb, M.: Teorijski okviri državne intervencije, *Financijska praksa* 19 (5) 1995:407-420;
21. Kordej De Villa, Ž.: Instrumenti i metode provođenja državne intervencije u Austriji, *Financijska praksa* 19 (5) 1995:421-437;
22. Miličić, V.: *Opća teorija prava i države*, Pravni fakultet Sveučilišta u Zagrebu, sv. I., 1994.
23. Miličić, V.: Takozvana vladavina prava, u *Vladavina prava*, 3-4/1998
24. Neumann, F.: *The Rechtsstaat and the Rule of Law*, published in *Vladavina prava*, 3-4/1998
25. Padjen, I. : Pravne pretpostavke znanosti o modernim društvima, *Naše teme*, 7-8/1988
26. Padjen, I.: *(Ne) čudorednost (međunarodnog) prava*, Dometi, Rijeka, 1988
27. Pavčnik, M.: *Teorija prava*, Cankarjeva založba, Ljubljana, 2001;
28. Pusić, E.: *Globalizam i državna uprava*, Politička misao, 1/1999
29. Pusić, E.: *Društvena regulacija*, Globus, Zagreb, 1989:149
30. Pusić, E.: *Država kao institucija*, RAD-HAZU, 473/1986
31. Pusić, E.: Odgovornost za državu, *Erasmus* 22/1997
32. Pusić, E.: Sistematizacija iskustva u regulaciji pravom, *Naše teme*, Zagreb, 33 (12) 1989: 3472-3480
33. Sassen, S.: *Losing control? - Sovereignty in an Age of Globalization*, New York, Columbia Univ. Press, 1996
34. Skinner, B.F.: *Nauka i ljudsko ponašanje*, Obod, Cetinje, 1969:394
35. Šimac, N.: *Europski principi javne uprave*, UDD, Zagreb, 2002, p. 13.
36. Šimonović, I.: *Uloga prava u društvenoj stabilnosti*, Collection of Papers PFZ 40 (5-6) 1990
37. Thurow, L.: *Glavom u glavu*, Mladost, Zagreb, 1993
38. Visković, N.: *Pojam prava*, Logos, Zagreb, 1981, p. 273
39. Vrbanić, D.: *Država i pravo*, Golden marketing, Zagreb, 2003
40. Young, J.: *The Exclusive Society-Social Exclusion, Crime and difference in Late Modernity*, London/Thousand Oaks/New Delhi, SAGE Pub., 1999,

M I S C E L L A -
N E O U S

NON-ATTENDANCE AS THE INDICATOR OF STUDENTS' SATISFACTION WITH THE EDUCATIONAL PROCESS

Siniša Bilić, Sanja Čop, Ivica Opačak and Zlatko Bagarić

Postgraduate studies Management, Osijek

SUMMARY

The growth of non-attendance has raised a lot of questions among students that need to be answered. In case when during a school year, in one class consisting of twenty-five students one gets more than five thousands non-attendances, then it is no longer the issue of a single problem nor a few of them but a whole epidemic. Moreover, other classes have a similar problem, too.

By conducting the survey among the students and by analyzing it one has noted a lack of motivation and responsibility towards school related duties. Consequentially there has been a growth of non-attendance among a majority of students. The existing system of sanctioning does not bring neither prevention nor positive results. Therefore, one needs to modernize the educational process in order to motivate both students and teachers and that will function in a way to reduce non-attendance. In order to succeed, one needs to involve every social partner, from parents to potential future employers.

Key words: non-attendance, accomplishment, survey, measures and procedures

I. INTRODUCTION

There is a disturbing and increasing trend of students not attending school or classes. A general discussion with students revealed that the main problem was non-attendance. A survey was then carried out to enable us understand reasons and motives as to why students do not attend school and what should be done to eliminate this problem as well as ways to improve their overall results and studying habits.

The main goal is to understand the reasons for not attending school and to accurately establish ways by which we can prevent this trend in the future. Absent school hours are monitored by the Pedagogical system. Non-attending students usually receive lower behavior grades, but the biggest problem manifested from non-attendance is inability to follow, learn and pass subjects due to lack of continuity of information.

II. AIM OF RESEARCH

The aim of this research is to obtain results with focus on motives for not attending school and to understand them so as to decrease non attendance. School non attendance is in close and direct correlation with other student problems like building up their career, destabilizing class unity, breaking or loosing student teacher relationship etc. It is important to improve the teaching process by bringing in closer to the student with the aim of preventing future non attendance and to achieve success. In addition this research will also provide information that can be used for future studies. This research also explored the relationship between non attendance and overall grades as well as the attitude of these students towards the school and whether or not students understand the results of not attending school.

III. SAMPLE OF EXAMINEE, VARIABLE AND METHODS OF RESEARCH

Sample of examinee has been taken from students of Matija Antun Reljkovic Secondary School, Slavonski Brod. 83 students were examined form the classes with the highest non attending hours, from 1st to 4th grade.

In order to establish and follow up indicators significant for school absenteeism and overall achievements in the school, the survey questioner was applied.

The survey questioner had 15 questions divide into 3 groups as follows;

- Student's opinion towards non attendance and frequency of non attendance.
- Main reasons as why students do not attend school.
- Reaction of society towards students not attending school.

IV. METHODS USED IN ELABORATING RESULTS

To elaborate results we used basic statistic parameters, frequency and percentage. All survey results were summed up and are shown on the graphs.

V. SURVEY RESULTS

Below are the questions with their individual results.

1. I attend classes

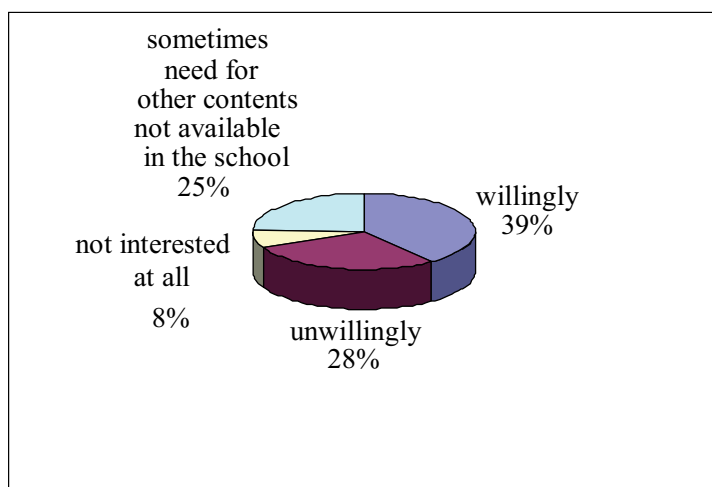
- willingly
- unwillingly
- not interested at all
- sometimes need for other contents not available in the school

On the basis of answers it has been noticed that students willingly attend classes and that a large number of students would like to have other contents not available in their

school.

On the other side 28% of students unwillingly go to school and 8% have no interest for education as shown on the graph.

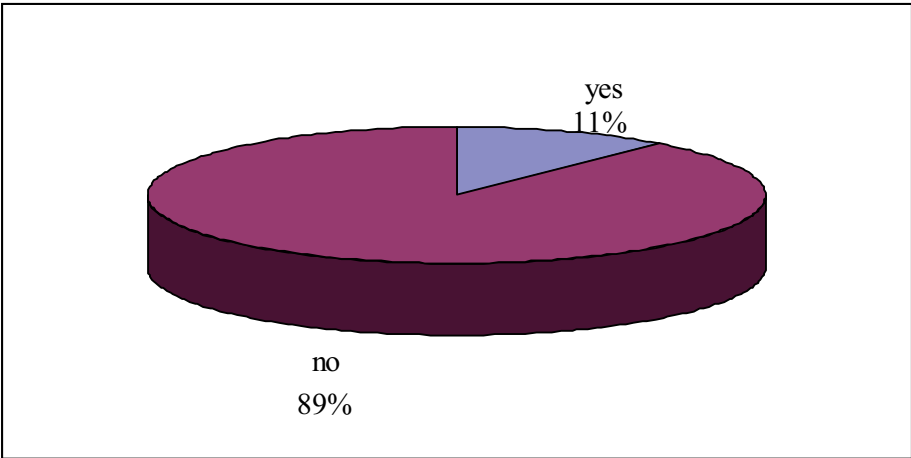
Figure 1. I attend classes....



2. DO I NOTICE UNFAIRNESS DURING JUSTIFICATION OF ABSENT HOURS?

In relation to this question, students from the fourth grade do not feel unfairness during the justification of absent hours, while students from the first grade answered the opposite. This clearly shows strong willingness towards participation and education. Results are shown on the graph.

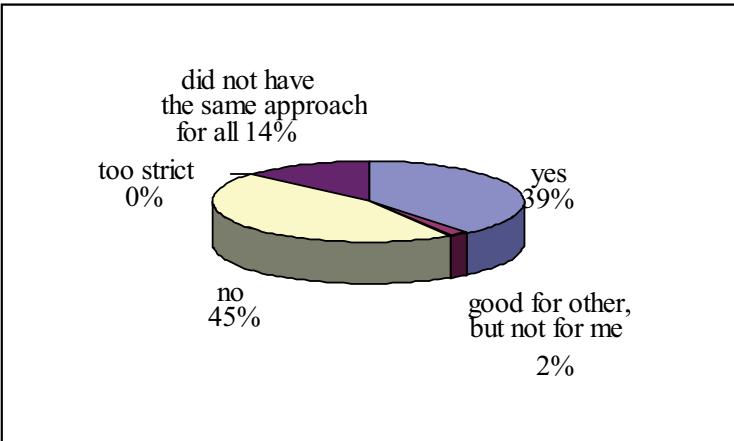
Figure 2. Do I notice unfairness during justifications of absent hours?



3. DO TEACHERS APPROACH PROPERLY WHEN JUSTIFYING ABSENT HOURS?

Answers have shown a small percentage of students believe that teachers have the right approach when justifying absent hours, while a bigger percentage of students think that teachers should use the same approach for all students, whilst in question 2 above a big percentage of first year students thought that teachers did not have the same approach for all, clearly the opposite to fourth grade students, who chose not to answer this question.

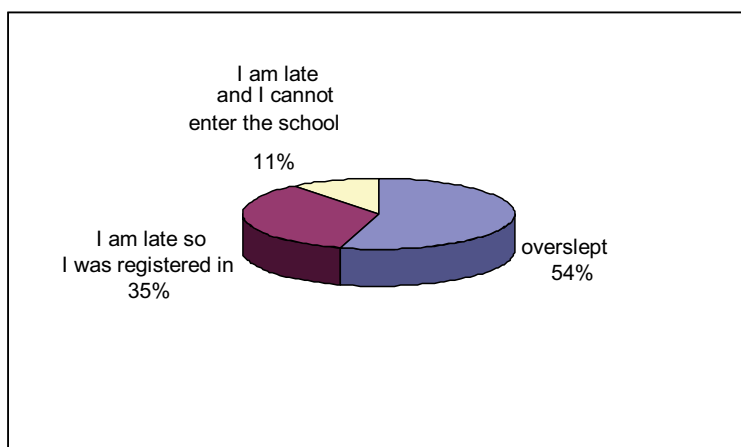
Figure 3. Do teachers approach properly when justifying absent hours?



4. WHAT STUDENTS THINK ABOUT MISSING THE FIRST CLASSES?

On the basis of the results we can see that there is a necessity to create a frequent talking forum during the form / mistress class in order to create better and more quality approach towards school work. It is disturbing to see that a big percentage of students think that it is justified to miss the first hour of school because they over slept!¹

Figure 4. Unjustified absence from the first classes because...

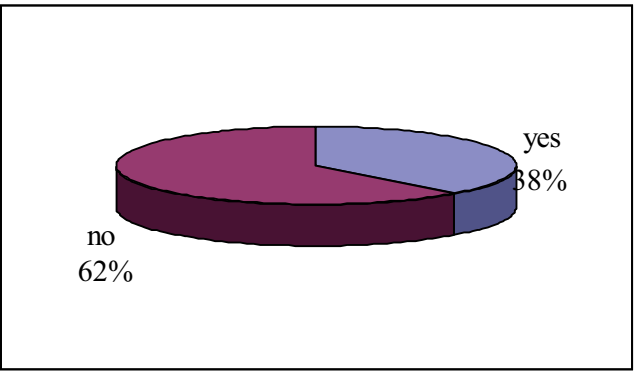


¹ Figure shows in percentage positive answers on each graph

5. DO PARENTS ALWAYS JUSTIFY THEIR CHILDREN SKIPPING SCHOOL?

On this question students answered that they do not get support from their parents on skipping class, except of course only when they think it is justified. This attitude from the parents is encouraging and should be used in creating a closer interactive forum between students, form master / mistress and their parents.

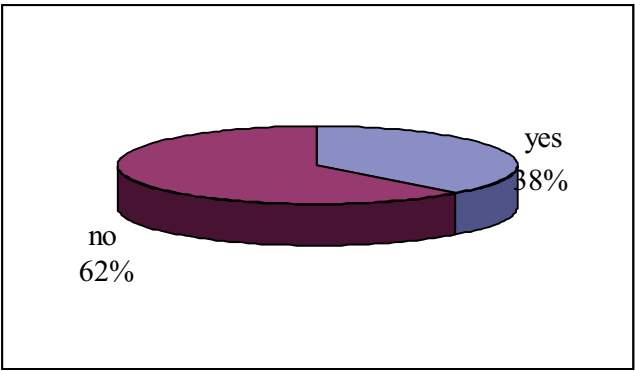
Figure 5. Do parents always justify their children skipping school?



6. DO YOU SOMETIMES SKIP SOME CLASSES IN THE MIDDLE OF THE DAY?

Answers have shown that students are irresponsible and that there is an urgent necessity to implement adequate preventive measures to increase the need for regular schooling, better knowledge and continuing education.

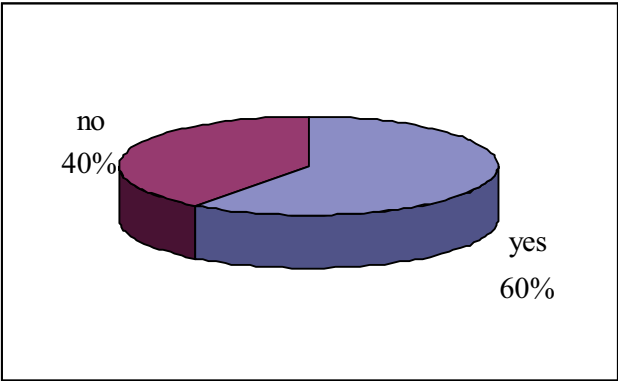
Figure 6. Do you sometimes skip some classes in the middle of the day?



7. STUDENT’S THOUGHTS ABOUT SKIPPING THE LAST CLASS OF THE DAY.

The following table with percentages shows that students are tired and saturated at the end of the day which increases the number of absent (skipped) last class of each day.

Figure 7. Do you skip the last class of the day?



8. STUDENTS WHO DO NOT LIKE CLASSES AND THEY SKIP SCHOOL BECAUSE OF

Table 1. Reasons for skipping school

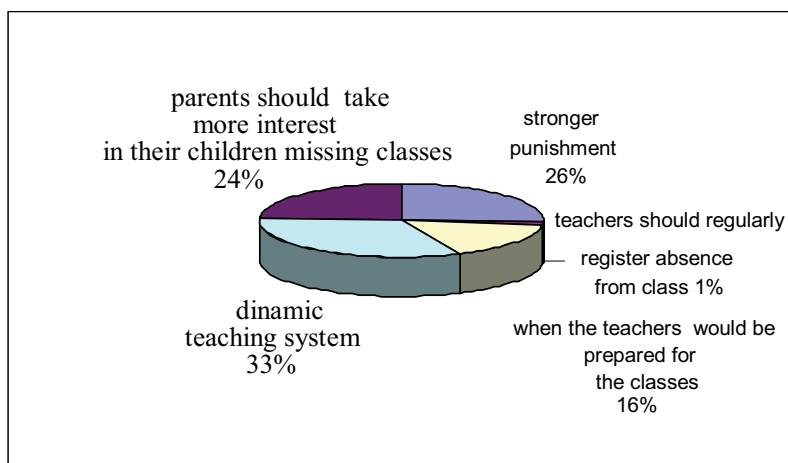
Unwillingly going to class because	%
I am bored	12%
I am tired	6%
I have forgotten my books and or equipment	4%
I have to go and have a cigarette	6%
I have to have coffee in the coffee bar	5%
Of commitments which no one understands	12%
I have not studied and will get bad grades	28%
I don't like the teacher	3%
I think I will not to get registered in the absent book	8%
I have to accompany other friends skipping class	8%
There is no punishment for skipping class	1%
There is nothing being done during the class	3%
The teacher does not like me	4%
Other reasons (gambling)	1%
Total	100%

A large number of students gave not studied, bored and other Commitments as the main reasons for skipping school these reasons gave them confidence and a belief that it is right to skip school and to continue skipping school. Some students skip school to have a cigarette at the nearest coffee bar hoping not to get marked absent.

A small number of student groups think that they will not be punished for the absent hours and that they will not miss anything important while they are absent and find various reasons for skipping class such as gambling, misunderstanding with their teachers from different subjects etc.

9. THERE WOULD BE LESS SKIPPING OF CLASS WHEN

Students think that there will be less skipped hours if stronger measures / punishments or a more advanced teaching system are implemented. Students from the 1st year agreed to implement stronger measures / punishment, while 4th year students were more inclined towards the use of modern and dynamic teaching system. They also thought that parents should take more interest in their children missing classes and that teachers should regularly register students absent from class.

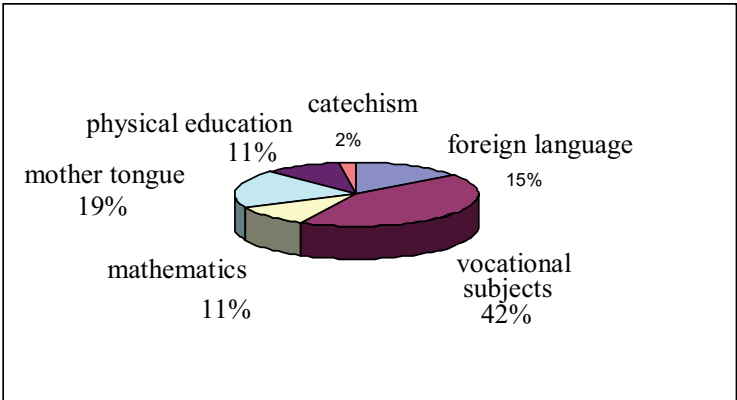
Figure 8. There would be less skipping of classes when...

10. I MOSTLY SKIP CLASS BECAUSE OF THE FOLLOWING SUBJECTS...

Answers analysed on this question revealed that students mostly skip major subject classes like Croatian Language, foreign language (English, German etc) physical education and mathematics.

These results have shown that students mostly skip while changing classrooms as they break up into groups and then finally from subjects they consider not important. It is upsetting to see that a large number of absent hours are more from the more important subjects crucial to their future career. All this above is in close correlation with unsatisfied teachers who should consider implementing better methods of quality teaching approach.

Figure 9. I mostly skip class because of the following subjects...



11. DOES YOUR ENVIRONMENT BLAME YOU FOR SKIPPING SCHOOL?

Punishments students receive are from their parents only so parents should play a bigger and more important role in changing the attitude of their children and teach them the importance of education. It is also important to influence the whole class, where classmates can put some pressure on the students skipping class that skipping is a negative trend, to motivate classes to take care of non attendance in their own group or to implement some incentives like a reward for the best attending class (picnic ...).

Figure 10. Does your environment blame you for skipping school?

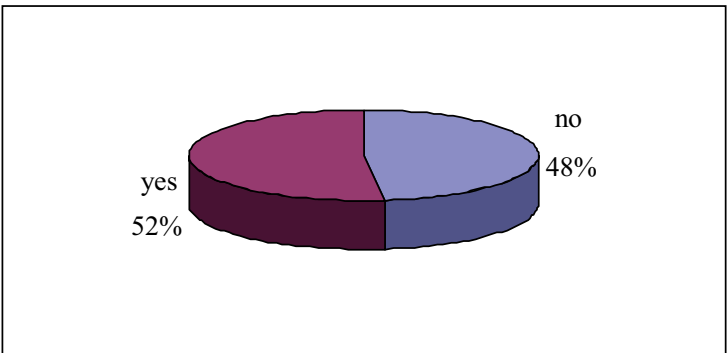
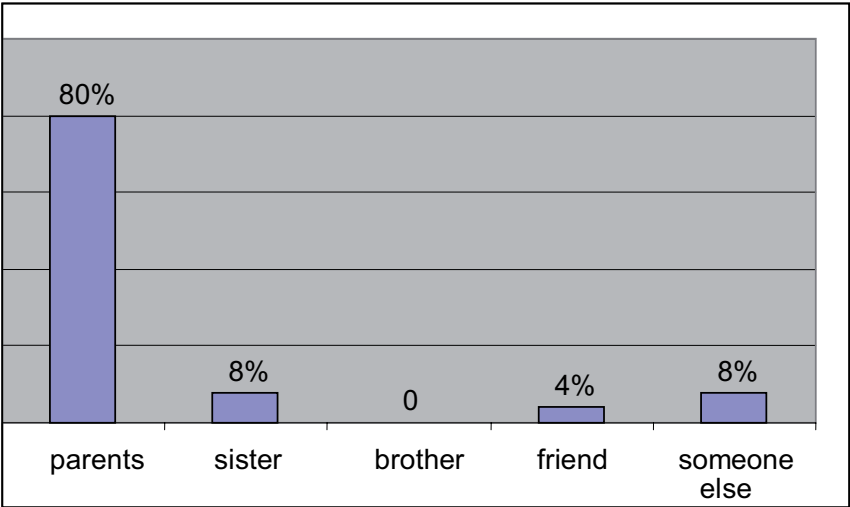


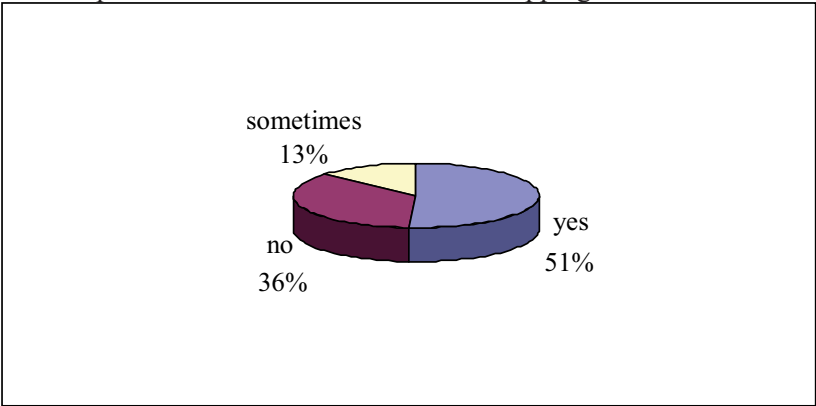
Figure 11. Who blame you?



12. DO PARENTS KNOW ABOUT THEIR CHILDREN SKIPPING CLASSES?

An exceptionally high percentage of students do not communicate to their parents of missing classes. A small percentage of students, those that are honest with their parents communicate this and as such have no problems with absent hours. The results therefore show a very negative trend.

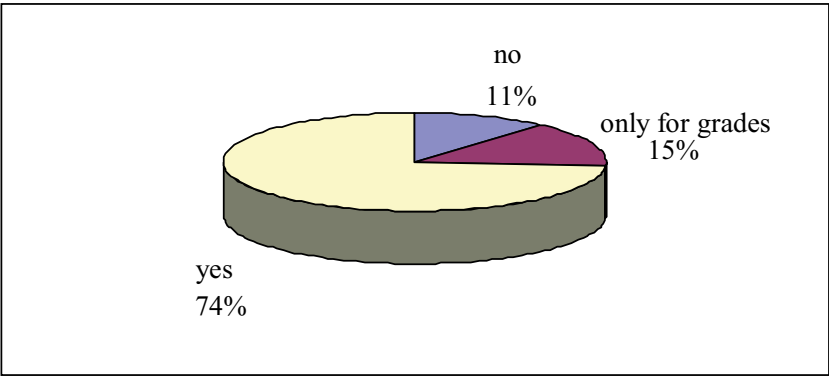
Figure 12. Do parents know about their children skipping classes?



13. ARE PARENTS INTERESTED IN YOUR GRADES AND ABSENT HOURS?

One part of parent's don't show any interest in school activity of their children. Only 74% of parents show interest their children's grades and absent hours. 11% of parents don't show any interest in either grades or absent hours, while 15% of parents are interested in only grades and show no interest in absent hours and think that it is irrelevant and not important.

Figure 13. Are parents interested in your grades and absent hours?

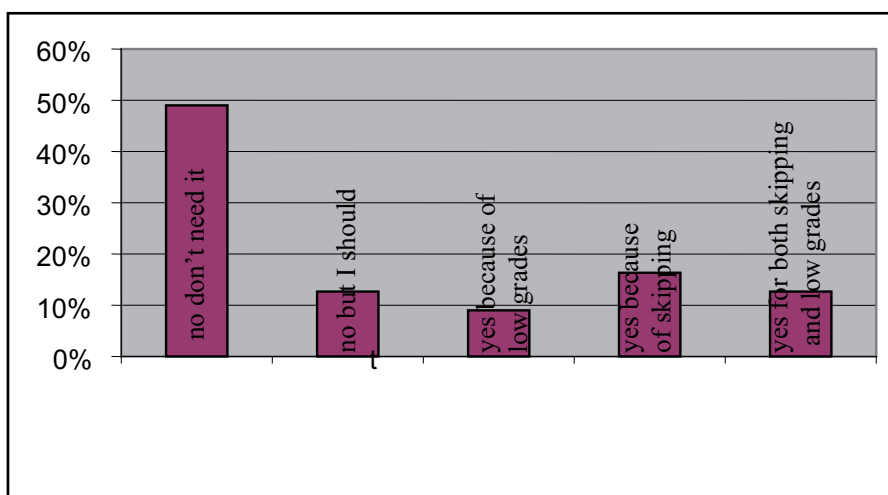


14. HAVE YOU RECEIVED ADEQUATE PUNISHMENT FOR SKIPPING AND LOW GRADES?

Offered answers were; no don't need it, no but I should, yes because of low grades, yes because of skipping and yes for both skipping and low grades.

Only 38% of students thought that they have been adequately punished because of not fulfilling their school obligations.

Figure 14. Have you received adequate punishment for skipping and low grades?



15. WHAT GRADES DO YOU EXPECT TO GET AT THE END?

Students expect much higher grades than what they have achieved in the period before. It is surprising that 8% of students don't expect better grades and 6% of students are happy with getting only (sufficient) passing grades.

Figure 15. What grades do you expect to get at the end?



VI. CONCLUSION

The aim of this research was to create attention, analyse and to present some opinions about non attendance of students in schools.

Survey results have confirmed the same studies before, showing relationship between students not attending classes and their results, where students with higher absent hours have lower grades and have lower self-esteem.

Students opinion is that non attendance can be reduced with lowering the intensity / load of subjects and introducing a more modern teaching approach.

The current reform of education has the same goal by introducing Croatian National Educational Standard; some reforms have already been introduced in the primary schools where students have been freed from unnecessary contents and heavy school bags. In secondary schools a state high school diploma has been introduced and a more modern teaching approach into the trade schools with a goal to increase student's interest.

Teachers with their role in education, developing better relationships between students and parents and by implementing advanced teaching methods will increase student's interests and ambitions. It will also decrease reasons and motives for not attending school

and through that achieve better professional development of young people.

VII. SOURCES

www.myhighschooljournalism.org., Torrey Garcia & Crystal Valdespino, Students not happy with absentee line, 11. kolovoza 2006.

www.zzjzpgz.hr/nzl/6/skola.htm, prim. mr. sc. Jagoda Dabo, dr. med., Neopravdani izostanci učenika s nastave, 25. kolovoza 2006.

Marina Markuš, Psihosocijalne determinante školskih izostanaka, Filozofski fakultet, Zagreb, 2005.

WINE TOURISM AND WINE ROUTES IN TOLNA COUNTY

Andrea Máté

Illyés Gyula Faculty of Education

University of Pecs

INTRODUCTION

Hungarian viticulture faces several challenges as a result of the planned restrictive measures of the European Union and the gradual development of the producers of the third world. Thus wine tourism built on the industry has an increasing role in the maintenance and guarding of wine production as well as in the development of the regions in the countryside. The conditions for wine tourism are excellent in Tolna County but its operation still faces many difficulties. This is also proven by the 2004 survey made in the county on the basis of questionnaires sent to all of the municipalities and a representative sample of the population. For the time being undertakings, municipalities and civil organizations are unable to harmonize their targets in the interest of the future of the region. Wine routes organized in the country try to incorporate the agents of the industry in the region.

1. WINE TOURISM AND WINE ROUTES AS TOURISM SERVICES

Wine and wine culture are attractions which are increasingly popular among Hungarian and foreign tourists. Wine tourism is one of the special types of agro-tourism which is built on the show and sale of local products (e.g. the wine). The supply for tourists is formed by the producer or wine growing facility, which implies wine tasting, wine sale and related accommodation.

1.1. Features of the wine route

The transformation of the supply of wine regions into thematic routes may assure the demonstration of assets and wine tourism the most effectively. Wine routes are a complex tourism product which provides interesting experience through a specific supply. It can be operated with success if the participants recognize their common interests and are able to think in terms of a region. It is a feature of the wine route that it is based on common local efforts, operated as an organized unit and it offers qualified services. The products of the wine route are introduced into the market by the help of communal marketing.

The wine route provides a wide regional supply – the market of consumers is delivered to the door, meaning that products may be sold directly, without any freight cost. The wine route and the expectations of the tourists exert a favorable influence on the improvement on the image of the settlement, contribute to closing the gap between regions and to the development of small settlements in an unfavorable position. This complex tourism

service creates jobs on the site, as a result of which the rate of unemployment will reduce and participants will earn supplementary revenues. The activity will contribute to the involvement of the environment conscious thinking and regional cooperation, and the members of the local society will establish relations among one another. (SZABÓ 2002.)

Several conditions have to be met for the formation of the wine route and its operation in the long run. It is a basic condition that the route be established in a wine region, the wine route can be toured and offer aesthetic experience. The wine route guarantees the quality of products and services, providing protection to consumers as a result. The qualification assures that guests may enjoy the same high level servicing at each service provider. The qualification system extends to opening hours, the methods of receiving the guests, the equipment of the service provider, the professional knowledge and language command of employees, the types of the wines offered and several other factors. It provides a refined and well-arranged environment and appropriate availability. The goal of the wine route is similar to the targets of the local society, which are aimed at guarding and protecting local assets, facilitating the development of the society and contributing to the retaining of the population. Wine routes require the cooperation of the population, entrepreneurs, civil organizations and municipalities since they will jointly benefit from economic and social yields.

1.2. Elements of the wine route cooperation

Family undertakings provide the services. The municipality facilitates the establishment of the infrastructure background and backs the undertakings through local decrees. Communal marketing is to be formed by the municipalities, undertakings and the wine-growing communities. The associations may be in work relation with other exterior organizations though the majority of the connections are characterized by a two-way information flow:

- Authorities, supervisory bodies, unions (Ministry of Agriculture and Regional Development, National Public Health Authority, Institute for Consumer Protection, etc.)
- Wine trade organisations (National Council of Vineyard Communities, Grape and Wine Production Research Institute, Wine Academy, National Association of Hungarian Wine Routes)
- Regional development (South Transdanubian Regional Development Agency)
- Tourism organisations (Rural Tourism Association, Tourinform)
- County and regional cultural and tourism organisations
- Partner wine routes of the South Transdanubian Region
- Business partners (Hungarian and foreign travel agencies, national and regional hotels, restaurants, wine merchants, wine wholesalers (with interests in the county)
- Foreign partners (Croatian, Slovenian, Austrian, German, Italian, French wine

producers, tourism businesses, associations, wine routes, regional development agencies, AREV)

2. WINE REGIONS IN TOLNA COUNTY

Five out of the total 22 wine regions of Hungary are situated in the South Transdanubian Region. According to the 1997/CXXI law, two wine regions can be distinguished in Tolna county: the one of Szekszárd and the one of Tolna. Historic tradition and natural conditions make the entire county suitable for growing grapes. However, the areas outside Szekszárd wine region have only been allowed to use the distinctive title "wine region" since 1998. In the past eight years the territory of the wine regions has expanded, since further laws on wine production and regulations of the Ministry of Agriculture and Rural Development increased the number of settlements in the wine regions. (*Figure 1.*)

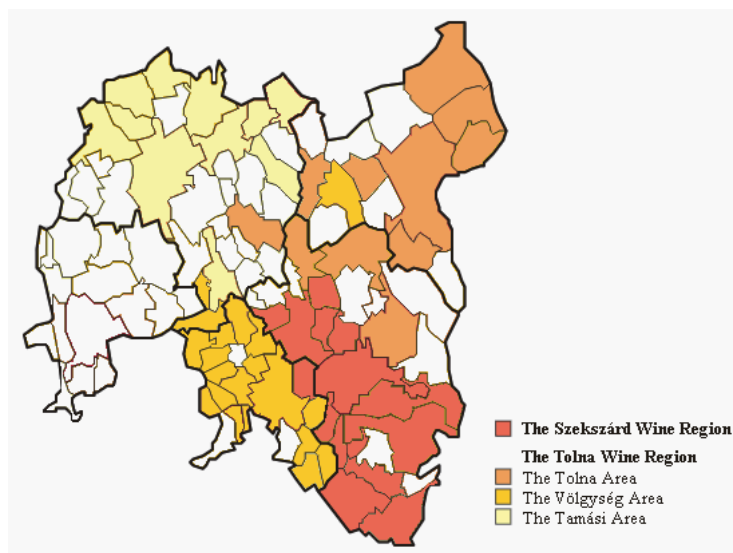


Figure 1. Settlements of the Wine Regions in Tolna County, 2006 (ed. A. Máté)

In 2006, 15 settlements belonged to the Szekszárd wine region (Alsónána, Alsónyék, Báta, Báticaszék, Decs, Hanc, Kakasd, Káty, Medina, Ócsény, Sióagárd, Szálka, Szekszárd, Várdomb, Zomba) and 41 to the Tolna wine region (Aba, Felsőnyék, Hőgyész, Igar, Iregszemcse, Magyarkeszi, Nagyszékely, Nagyszokoly, Ozora, Pincehely, Seregélyes, Simontornya, Szabadbattyán, Szabadhidvég, Tamási, Tolnanémedi; Bölcské, Dunaföldvár, Dunaszentgyörgy, Gyöng, Györköny, Kölesd, Madocsa, Paks, Sárszentlőrinc, Tengelic, Tolna; Aparhant, Bátaapáti, Bonyhád, Bonyhádvarasd, Duzs, Grábóc, Györe, Hidas, Izmény, Kisdorog, Kismányok, Kisvejké, Lengyel, Mórág, Mőcsény, Mucsfa, Mucsi, Nagydorog, Nagymányok, Tevel, Závod). Red wine production is the dominant one in the Szekszárd region, which is more marketable among the present market circumstances, whereas white wine production is more prevalent in the Tolna wine region. (*Table 1.*)

Table 1. Authorized Grape Varieties in Tolna County

Red wine grape varieties	Kékfrankos, Cabernet franc, Cabernet sauvignon, Merlot, Pinot noir, Kadarka, Zweigelt
White wine grape varieties	Olasz rizling, Chardonnay, Zöld veltelini, Traminer, Rajnai rizling, Leányka, Királyleányka, Müller-Thurgau, Sauvignon Blanc, Pinot gris

(Fund: B-NÉ HERPAY 1998.)

3. THE WINE ROUTES OF TOLNA COUNTY

The first wine route of Hungary was established in the South Transdanubian Region in 1994: the Villány-Siklós wine route. Owing to the PHARE Pre-Accession Funds, four further wine routes were established in the region, two of which are in Tolna county, the wine routes of Szekszárd and Tolna. Due to the dissimilarity in natural and production conditions, the two wine routes show significant differences.

3.1. The Wine Route of Szekszárd

The wine route of Szekszárd belongs to the classical wine routes, the whole route can be travelled continuously. 12 settlements belong to the route with Szekszárd as the centre, which provides most of the wine route services. (*Figure 2.*) The wine route's reputation is established by wine producers that have achieved domestic and international success. This benefit is further enhanced by the service providers of the wine route, who were awarded the title "Wine Producer of the Year". (Vesztergombi Ferenc 1993, Takler Ferenc 2004) A disadvantage of the wine route is that it cannot present the heritage of such a cellar village like the Siklós-Villány wine route. The row of cellars in Sióagárd could compensate for this lack of experience, however, this potential is still to be exploited. Instead of cellar villages, the wine route welcomes visitors with spectacular wine houses on the hillsides. (AUBERT 2005.) The services of the wine route are wide in range: wine tasting, wine sale, visiting of cellars, open-air wine fountain, wine tresor, pálinka (special Hungarian brandy) tasting, local dishes, renaissance cuisine, ethnographic collection, artisans and craftsmen, various events, accommodation at wine producers, in hotels or in castles.

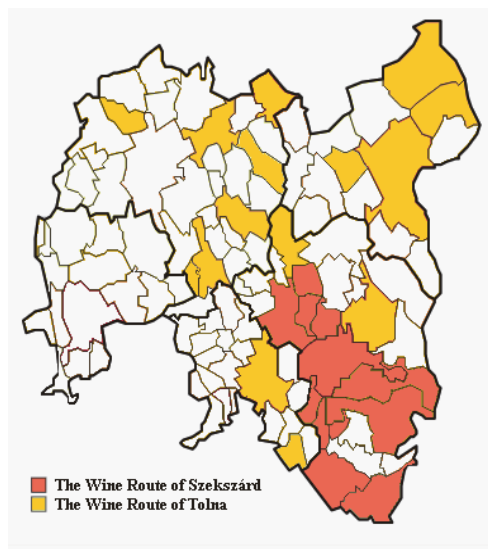


Figure 2. Settlements of the Wine Routes in Tolna County, 2006 (ed. A. Máté)

3.2. The Wine Route of Tolna

The wine route of Tolna belongs to the open type wine routes, since the route stages are scattered throughout the three districts of the wine region of Tolna. Hence the wine route (consisting of 15 settlements) cannot be travelled continuously, but initiatives have been made at the individual settlements to receive guests. (Figure 2.) The wine route of Tolna preserves the built cultural heritage of several cellar villages (Györköny, Paks, Bölske, Dunaföldvár, Nagymányok), yet their utilization is low and their condition is constantly deteriorating. Among the present circumstances, significant reception of guests occurs in connection with local events. There are no notable wine producers along the wine route, who could raise the reputation of the region. (SZABÓ 2003.) Instead, two large-scale wineries accomplished more significant achievements in wine industry, however, wine tourism is present only to a very modest level in the activity of the companies. The wine route lacks the presence of small and middle-sized family wineries. The services of the wine route are wine tasting, wine sale, restaurants, boarding houses, artisan displays, horseback riding, carriage rides, various events, museums and exhibitions.

3.3. A Comparison of the Wine Routes in the South Transdanubian Region

The routes of the South Transdanubian Region are operated by civil organizations, associations. They are financed by the membership fees of the members and the local self-governments, and by tender funds, from which only the Villány-Siklós wine route can afford a one-person regular staff. The lack of financial and human resources of the

associations is compensated by the active work of some enthusiastic members.

The wine route membership in the South Transdanubian Region has been constantly growing since their establishment; in the period between 2000 and 2004 the number of certified members increased by 11 %. The Villány-Siklós wine route has the largest membership, with 52 % of all the members. The second largest number of members is along the Szekszárd wine route, though it is still only one third of the Villány wine route's figures. The wine route of Tolna was reckoned to be the smallest one in 2000, while in 2004 its membership exceeded that of the wine route of Mohács-Bóly. The wine route of Villány-Siklós tops the list also in terms of accommodation (74 %), catering (60 %) and wine tasting (52 %) capacities. The wine route of Tolna possessed greater capacities in accommodation in 2004 than the route of Szekszárd. The low capacity of accommodation is the most significant problem of the wine routes in Tolna; it is impossible to keep visitors in the area for a longer time due to lack of accommodation. 22 % of the catering capacities can be found along the route of Szekszárd, whereas only 4 % along the route of Tolna. The wine routes established the wine tasting services the fastest and in the largest capacities. The availability of the wine route services via the Internet is an important indicator; in the case of the Szekszárd and Tolna wine routes this is not functioning, although they do have a domain name, but the homepage of the Villány-Siklós and the Mohács-Bóly wine routes are accessible. (Table 2.)

Table 2. *Capacity of the Wine Routes in the South Transdanubian Region (ed. A. Máté)*

Name		Villány-Siklós	Mohács-Bóly	Szekszárd	Tolna
Year established		1994	2000	2000	1999
Number of members (2000)		86	27	26	20
Number of members (2004)		92	26	32	27
Accommodation	Capacity (2004)	690	50	94	100
Restaurant		1860	420	660	120
Wine tasting		2296	520	1100	500
Homepage		available	available	not functioning	not functioning

(Fund: D. VALKÓ 2005.)

3.4. Managing the wine routes in Tolna County

The associations managing the wine routes of the county are organized from below and are independent social (non-profit) organizations. The associations make considerable efforts to establish the wine tourism based on local high quality agricultural products and to form, familiarize and market related rural tourism and other tourism services. Their

membership mainly comes from municipalities, small and medium wine growers, tourism entrepreneurs, private persons and wine-growing communities.

The annual business budget of the associations is provided by membership fees and funds originating from different tenders. These revenues account for the majority of annual sales. The amount of the subsidies provided by municipalities is uncertain and very low in each year. Revenues are utilized for the drawing of certain tender resources, for the coverage of the costs of participation in events and exhibitions as well as for communal marketing and the production of promotion material.

The organizations managing the wine routes do not have own offices and they work in cooperation with other professional organizations, by making use of their office infrastructure. Owing to low revenues, wine route organizations do not hire any employee. Management duties are performed by the social agent. As a result, these associations have not defined qualification and professional requirements for their management. When the management of the wine route associations is developed in the future, the following aspects are to be taken into account: ability to work independently, good communication ability, basic knowledge in the field of viticulture, wine tourism and catering, at least secondary qualification and language command on medium degree. Any experience in tourism and marketing as well as secondary or high educational qualification in the profession may be an advantage. (A Comparative Analysis ...)

4. THE SITUATION OF WINE TOURISM IN TOLNA COUNTY, ACCORDING TO THE QUESTIONNAIRE SURVEY

In the organization of the Regional and Settlement Development Research Center of Illyés Gyula Faculty of Education of the University of Pécs a survey was carried out in 2004, involving all the local self-governments and a representative local population. The wine tourism topic has been compiled within the framework of this. During the research the mayors (in some cases the notaries) of all the 108 settlements of Tolna county, as well as 500 residents have been asked, who represented the characteristics of the county in terms of gender, age and size of settlement. Before carrying out the survey, the contents and structure of the questionnaire have been tested with the help of focus groups. Due to the thorough preparation the research proved to be very successful, overall response was 100 %.

4.1 The Results of the Population Survey

The population considers hunting and wine tourism, as well as thermal and health tourism as the most outstanding and internationally significant appeal of Tolna county. Besides these, they regard wine tourism, natural and folk art treasures as the main appeal on the national level. Consequently, the local population is aware of the difference, namely:

not all attractions are successfully marketable on the international level, as well as which are those attractions that can generate significant domestic tourist flow for the county.

However, the population is ignorant of which settlements belong to the wine regions of Tolna county. Less than half of the answers were correct and 13 % of the respondents could not give an answer to this question. The control question asked anticipates the fact that the population has only superficial knowledge about wine industry and wine tourism. Hence it is no surprise that 10,7 % of the respondents used the services of the Tolna wine route, 3 % of them the ones along the Szekszárd route and 10,9 % the ones along wine routes outside the county. The explanation behind the low figures is that the population has inadequate knowledge about which wine route services are available. The majority of the respondents (50-60 %) know as much as there is a possibility of wine tasting, purchase of wine and visiting of cellars. They are even less (25-35 %) aware of supplementary services, that is, few people know that wine routes also provide catering and accommodation. (Figure 3.)

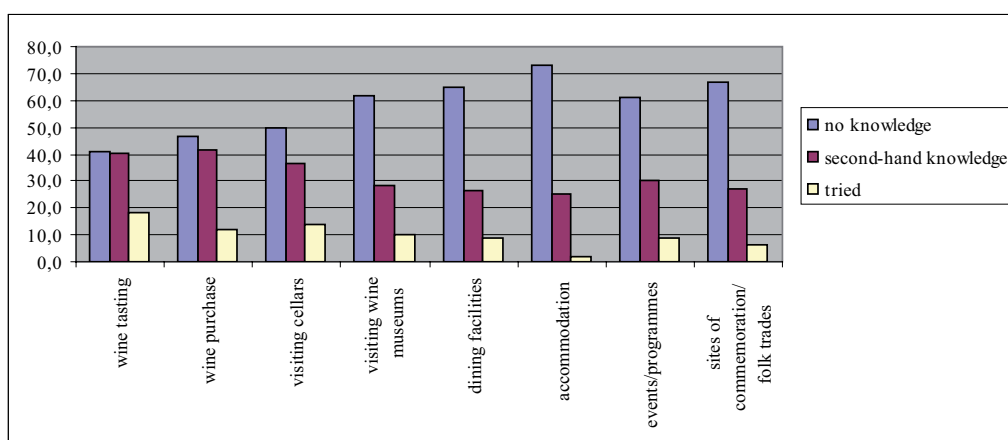


Figure 3. Knowledge of the Population about the Wine Route Services in Tolna County, 2004 (%) (ed. A. Máté)

According to the research, wine route services are used to a greater extent by men than women. The age groups between 18-39 and 40-49 are the most interested in wine tourism. Among the services wine tasting, wine purchase and cellar visiting were tried by the most people, while wine route accommodation was the least tried service. Besides the inadequate amount of information, these factors can also be explained by the fact that a significant proportion (15 %) of the county's population produces wine for their own needs; hence they also supply their family and relatives, which results in a decreasing motivation to try purchased wine. On the other hand, most of the wine tours are one day long trips, and the time is too short to familiarize with a more complex programme in a

wine region and use the accommodation capacities.

The negative figures are further enhanced by the trend that among those who came into contact with the wine route services, only 30 % recommended them to others. This is a very moderate rate in a sector where it is of utmost importance that the satisfied customer passes on the positive experiences, this way also advertising the region. The way to increase this rate is to let more and more people recognize and experience what wine routes have to offer. Many people cannot judge the wine route services because they have no knowledge about them – this applies to 46 % of the respondents. 5,7 % of the population thinks wine routes have no significance, 27 % is satisfied with the quality of them and 21 % is of the opinion that there is still room for improvement. (Figure 4.)

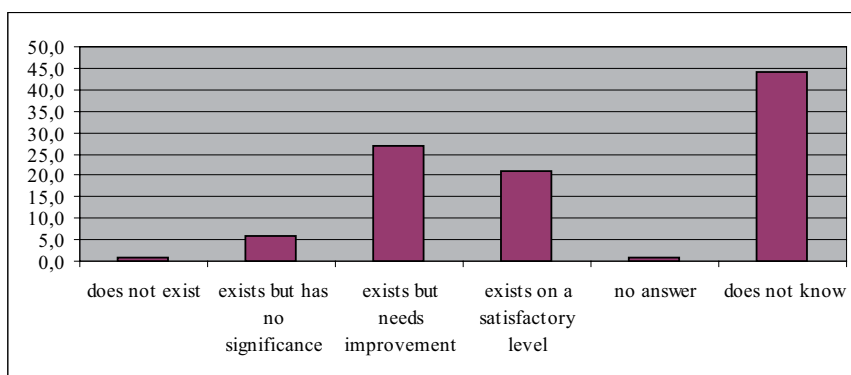


Figure 4. Evaluation of the Population about the Services of Wine Routes in Tolna County, 2004 (%) (ed. A. Máté)

With regard to the reputation of the wine regions, the majority of the respondents consider the quality of wine, the packaging and the reputation of the wineries as the most essential factors, while they reckon the role of wine tourism as the least important. This phenomenon needs to be highlighted because experts expect a successfully operating wine tourism to improve the recognition and proper judgement of wine regions, this way facilitating the marketing of wine products. The population (as the local consumer market) is of a different opinion.

The population thinks local and county self-governments should take the leading role in the development of wine tourism, besides that they consider the role of wine route associations, vineyard communities and local/regional Tourinform offices as the most important.

4.2. The Results of the Survey of Local Self-Governments

Local self-governments reckon hunting and wine tourism as the most important appeal of international significance in Tolna county, and regard thermal and health baths, folk art values and various events rather as an attraction on the national level.

Local self-governments are better informed in terms of wine tourism, which is proved by the fact that 88 % of the mayors were able to give an evaluation on wine route services. Similarly to the population, half of the mayors were satisfied with the services, while the other half felt the need for further improvement. (Figure 5.)

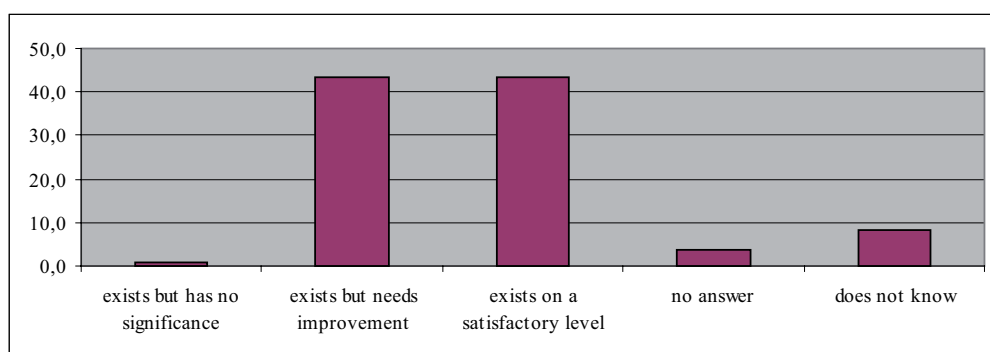


Figure 5. Evaluation of Local Self-Governments about Wine Route Services in Tolna County, 2004 (%) (ed. A. Máté)

27 settlements engaged in the activity of the wine routes in Tolna county and a further 33 plan to establish a wine route membership. However, wine tourism is hardly present in the development documents of the local self-governments – altogether 9 concepts of settlement development and a mere 5 concepts of touristic development of the settlements deal with the topic. Therefore, wine route accession can only be evaluated on the level of ideas, since no mid- or long-term plans have been outlined for the sake of realization. The majority of the settlements in the wine region remain supportive towards wine tourism. The lack of cooperation between the settlements is demonstrated by the fact that 51 settlements have no intention to support this type of product, that is, they failed to recognize so far the regional benefits resulting from wine tourism, and failed to realize that it is not wineries alone that can connect to wine routes.

The improvement of wine tourism is not solely the task of the service providers of the wine routes, but also that of the local self-governments, since their role is essential in establishing and forming the image of local infrastructure and organizing community events. Local self-governments rated the improvement of cellars' accessibility and

the development of the settlement's hosting image as the third and fourth place in importance.

However, when it came to specific actions, they highlighted tender funds, membership fees and organization of events as the financial support. Besides that 40 % of the supporting settlements would assist wine tourism through the marketing activity of the local self-government (e.g. issuing brochures). Setting up and operating information spots is considered to be the least important. The survey also unveiled that several local self-governments failed to contact with the organizations that directly or indirectly influence the case of wine tourism. They intend to communicate primarily with the wine routes and local Tourinform offices in the future. Their relationship with county, regional or national organizations is relatively moderate and they do not plan to significantly extend this relationship network at all.

4.3. Evaluating the Results of the Questionnaire

The response of the population demonstrated that only a small percentage used wine route services, thus most of the services are completely unknown to them. Thus a significant proportion of the population is unfamiliar with the activity of wine routes, although they overvalue them, consider them of international importance. The negative factors are further enhanced by the population's lack of knowledge even about the local wine routes (Szekszárd, Tolna), hence they will not recommend these experiences to their friends and acquaintances. The local population is very moderately utilized as a marketing channel.

Apparently, although local self-governments consider wine tourism of outstanding importance, it is hardly present in the documents of development. They established little cooperation with organizations that could facilitate the improvement of wine tourism. Local self-governments conceive supporting wine tourism through marketing activity, organizing events and issuing brochures, despite the fact that they highlighted a better accessibility of services and the creation of hosting image as possible ways to improve wine tourism. This is a significant contradiction, since they know what needs to be done for the sake of wine tourism, yet in practice they act differently. On the other hand, the marketing activity of the local self-governments becomes less efficient if it lacks the background support of the cooperation and information exchange with the civil and business sectors. That is, the local self-governments in question have failed to define yet, to what extent they take a financial or organizational role in the improvement of wine tourism.

5. Objectives of Development Concerning Wine Tourism in Tolna County

Wine tourism, as a prominent touristic product in the region, can make its social and economic benefits affect the county only if its operation and organization becomes

more efficient. This is not a challenge only service providers of the wine routes and local enterprises have to deal with; it would be advisable to also involve the local self-governments, the local population and civil organizations, of course with the adequate role. The objectives of improvement can be summarized in the following items:

- Widening the knowledge of local population about wine culture and wine route services
- Involving the population in wine route programmes and events
- Improving the marketing activity of local self-governments
- Upgrading the quality of brochures and updating their content
- Improving the quality of events and increasing their range of gravitation
- Improving and maintaining the condition of settlements, cellar villages
- Development of accessibility and infrastructure
- Elaboration of a standardized qualification system
- Arranging set opening hours at wineries
- Inventing guaranteed, regular wine route programmes, programme packages
- Increasing the capacity of accommodation in wine regions
- Training of hosting wine producers, wineries in the fields of tourism, languages and marketing
- Developing direct Internet access of the wine routes
- Development and expansion of tourist signpost network
- Organization of community marketing activity in connection with wine tourism
- Cooperation with Tourinform offices
- Efficient cooperation of civil, business and local self-government sectors

BIBLIOGRAPHY

AUBERT, A. 2005. Turisztikai erőforrások kihasználása a terület- és településfejlesztésben. In: PAP, N. (szerk.) *Terület- és településfejlesztés Tolna megyében*. Babits Kiadó, Szekszárd, pp. 333-363.

FRITZ, J. 2003. Helyzetkép a Tolna megyei szőlőtermesztésről a 2001. évi ültetvény-összeírás adatai alapján. KSH, Szekszárd, 39 p.

HERPAY, B-NÉ 1998. *A magyar borgazdaság kihívásai*. Mezőgazdasági Szaktudás Kiadó, Budapest, 132 p.

MÁTÉ, A. 2003. Adalékok a Szekszárdi borvidék történeti földrajzához. In: FRISNYÁK, S. – TÓTH, J. (szerk.) *A Dunántúl és a Kisalföld történeti földrajza*, PTE FI - NYF FT, Nyíregyháza-Pécs, pp. 226-237.

SARKADI, E. – SZABÓ, G. – URBÁN, A. 2000. *Borturizmus szervezők kézikönyve*. AMC - Baranya Megyei Falusi Turizmus Szövetség, Pécs, 86 p.

SZABÓ, G. 2001. Borturizmus és borutak. In: CEY-BERT, R. GY. (szerk.) Balatoni borgasztronómia. Paginarum Kiadó, Budapest, pp. 123-140.

SZABÓ, G. 2003. A borturizmus, a borutak kialakításának tapasztalatai a Dél-dunántúli régió borvidékein. In: KOVÁCS, D. (szerk.) A falusi turizmus hagyományai. Mezőgazda, Budapest pp. 133-142.

VALKÓ, D. 2005. Szerteágazó, rögzös magyar borút. Bor és Piac, 2005/8-9. pp. 18-22.
A Comparative Analysis of the Management Structures of the Wine Routes in the South Transdanubian Region, 2005, (www.vintour.hu)

ECONOMY AND UNIVERSITY – WISH FOR GOOD COMMUNICATION

Dr. Metod Černetič, Associate Professor
University of Maribor, Faculty of Organizational Sciences,

ABSTRACT

Good communication between University and economy is permanently bad. Although Slovenian science is permanently subject of analysis and reorganization, there are no evident improvements in its organizational structure or the way it is organized and the share of researchers in the so called governmental and economic sectors. There are opinions that the key problems of Slovenian science are in the field of technical sciences; that the cause of industrial non-competitiveness are engineers. An overview of the data of expenses (share of GDP for R&D) or investments in science based on the data of number of young researchers in Slovenia shows:

- That the Lisbon strategy incorporates the right goals and clear mechanisms, although the critical points are instruments and coordination for achieving these goals
- That Slovenia has to model on new members, which have already introduced their own budget supported goals of the Lisbon strategy;
- That ever since the establishment of the new country of Slovenia a consensus amongst among all the pillars of political power has not been able to be reached regarding what the role of science should be (primarily of R & D) and what the relation between universities and the economy should be.

The Lisbon strategy gives us the answers to the question how the EU can be competitive in the long run and at the same time preserve the European model of life; meaning a balance amongst economical, social and environmental goals. The first condition for the maintenance of social sustainability and kindness towards an environment is economical growth.

Key words: Bad communication, university, economy, Lisbon's strategy, research, development, young researchers.

1 INTRODUCTION

The summary of tasks from the report by the PHARE project (A Science and Technology...), which can be understood as instructions for changes in measures in current science and technology policies (ZTP), must be divided up into measures taken by the government and measures taken by the public ministries (MZT).

As a result of measures taken in the form of laws, decrees etc. the government should

have created a suitable environment that (Černetič 1999, 274-275):

- Is stimulating for the development of proprietorship and innovation,
- Is stimulating for industrial development, especially in sectors that show competitive advantage,
- Is stimulating for technological innovation and the transfer of technologies, especially from abroad.
- Is stimulating for scientific – research work, whereby the needs of the state in different areas (economic development, education, natural and cultural heritage, national identity etc.) should be taken into consideration.

The MTZ should also probably change its evaluation regarding the management of current medium-term science and technology policies, which have also been identified by the PHARE report (not only PHARE but also many domestic experts) as generic problems of the ZT sector:

- The connectedness between the ZT sectors (and also inside this sector) and the end-user is weak,
- The absence of a system of priorities,
- Mobility is poor for researchers,
- An insufficient amount of R&D activities in industries,
- Deficiencies in the technological transfer system,
- Researchers lack certain experience, which is important for successful R&D,
- The lack of stimulation for the flow of (young) researchers in industry and other sectors,
- Low levels of motivation in researchers for useful research.

The above-mentioned discoveries about the weaknesses of science and technology policies in Slovenia are also current issues, even though in the meantime the new state of Slovenia had been established, the ministries had been restructured, social and state responsibility had taken on new political option (government), etc. Slovenia is incapable of achieving consensus within society about the vision and aims of development and furthermore making them operational (Sočan, Bučar 2003, 118-120). Today, a Europe with “many gears” is already a reality. The following paragraph contains some data and evaluations, regarding questions relating to the title of this paper.

2 NEW TIES, NEW GOVERNMENT – OLD PROBLEMS

In the last few months there have been many conferences regarding the theme of new scientific and technological policies in Slovenia relating to the Lisbon strategy, which define that the EU is going to be the most competitive economy in 2010. These conferences were made by the European Commission in Slovenia, the newspaper Finance and the Slovenian Chamber of Commerce (GZS). Let us mention a few reasons why the Slovenian sciences

have not been achieving the desired objectives and expected progress:

- On explanation states that Slovenia still has a great concentration of research and researches in big research organizations.
- The second explanation states that we lag behind in the share of investment for R&D
- The third explanation, which deals with the decrease in the competitiveness of the Slovenian economy, emphasizes that there is an insufficient amount of researchers and developers in the (FTE) economy.
- The fifth explanation states that there are not enough young researchers in the technical sciences.
- The fifth explanation talks about the failures in implementing R&D that are found in the deficiencies in managing the sciences at the national level (within individual national economies and the EU level, in which amongst all others “Lisbon” and cohesive funds etc. are also available

2.1 Science at the State Level in the Market

Recently, the Minister for Higher Education and Science answered the question how to increase the participation between science and the economy in the following manner: companies should find out what kind of R&D projects they need, unite and then inform the ministry. Then a tender would be published, whereby scientific research organizations would apply who would also then carry out these projects. The minister’s commentary shows that it would be necessary to notify him, for a while now we have not had a system of central planning and his appeal for a national program that would organize the disharmony in developmental policies does not mean anything but an appeal for the strengthening of an already strong sentiment of economic totalitarianism. Why?

(Pezdir, Finance no. 43/05)

The conditions within the institutional framework of the Slovenian economy are therefore, according to the central plan to monitor the economy, crushing. What kinds of opportunities are given to companies that would like to become more innovated in the institutional framework of Slovenian science as suggested by the minister? If the minister’s statement is a central moment for the future mechanism in increasing the innovation potential of the Slovenian economy, we can expect that the process of increasing collaboration between science and the economy will take place according to the scenario, which is quite unusual for a market economy. As we already know in the first place, there will be companies only because they exist, they will be forced to join the “fraternity”, which is known to always confiscate a part of their revenues and assign them to the financing the process of finding ways for individual groups of rent seekers, which are lead through the Chamber of Commerce straight to the carries of economic policies. They will in turn proclaim them as national champions (as a rule, the strongest group of rent seekers), who will unite at individual projects and notify the authorized ministries

about them. The notified ministry will then carry out a tender, in which the needs of the national champions will be serviced by pre-transitional research and development organizations financed by the national budget. These types of projects will only be able to be financed by the taxes paid by proprietors that did have any luck in becoming the national champions. In other words – unprivileged companies, who had already paid taxes into the Chamber of Commerce for the transformation of rent seekers into national champions, will pay again – whether it is for achieving the aims of rent seekers or for creating an illusion that the economic policies stimulate collaboration between science and the economy. What does it really stimulate? (Pezdir, Finance no. 43/05). Above all things, within the system of legalized rent seeking it stimulates a competition amongst rent seekers for the best starting point in getting a share of the national budget, the state financed sciences, which is a big slice and the competition for access to the largest possible number of state financed projects for rent seekers (Pezdir, Finance št. 43/05).

2.2 A Weak Point – Management and Funds for R&D

In realizing the Lisbon strategy, each country must also take into consideration specific national objectives and the main problem of the strategy is in its weak management and co-ordination between the EU and member states. All foundations for the documents have been implemented and now it is important to better comprehend the meaning of partnership in the realization of the Lisbon strategy. One of the important instruments for its realization is also the EU's budget in which the "Lisbon" and "cohesive" funds are available. There is a catch that exists in that the first part of the funds are going to be distributed according to excellence, which for the most part means ending up in the developed members and the rest for lesser developed states. At this point, smaller EU member states emphasize the need for the restructuring of the European budget.

2.3 Germany and France Should Not Be Our Role Models

The main problem of the EU is in its heterogeneity and Slovenia should not model themselves after the traditional EU members (France and Germany) as much, which have been plagued with small growth in GDP and a high rate of unemployment. We should look at new member states (Slovakia, Latvia), which are more ambitious in development, more decisive and have already introduced their own budget supported goals of the Lisbon strategy. As a result, they have already organized three areas: a friendlier business environment (tax and other reforms), the liberalisation of the labour market, intend more funds for subsidising technological development and finding synergy between universities, the area of research and the economy. In the opinions of some, this is the right path for realizing the Lisbon strategy.

2.4 Expenditures of EU Members for Research and Development

In 2002, 25 of the EU members assigned an average of 1.93% of GDP for R&D in comparison to 1.82 % of GDP in 1998 according to Eurostat (Kenda, Finance, no. 40/05). They have also published data for EFTA members, candidates China, Japan and the USA so that international comparisons could easily be made. Once again, Sweden assigned the most followed by Holland and The UK. On the other hand, Luxembourg assigned the greatest expenditure in the private sector for total R&D expenditure. As a result, the % in Luxembourg was 90% followed by Sweden, Finland, Ireland and Germany. According to this information Slovenia assigned 1.53 % of GDP in 2003 and 67% of this in the private sector of total expenditure for R&D in 2002.

3 INTOLERABLE EFFORTLESS PLANNING

3.1 Bureaucracy Cannot Direct Development

We are moving into an “economy driven by intelligence” (Kos, Finance, no. 33/05). However, who will be the one to surpass the incapability of the economic elite and the government? Writers in this area also do not have the knowledge about innovative mechanisms and creative people. We cannot expect technological progress to come from universities and institutes because someone must direct their research into a team that works in this area.

Jobs are disappearing in our economy. However, the state bureaucracy will not solve anything with its ideas but will only intensify the crisis. An individual with their ideas is needed, who also takes responsibility for their actions. However, within a thousand ideas only one can succeed and therefore it is necessary to divide up the state funds accordingly and weed out the bad ideas before time and money is wasted on them. This is how the founders of innovative companies abroad operate and it is hard to find them at home.

We have tenders, whereby regional developmental agencies participate and there is no individual who would take responsibility for their ideas. These are bureaucratic efforts in obtaining funds for some common goals, which are organized in a general way and are in no way productive for creating new jobs. They are just new public administration sectors that are going to use up the state budget.

Some even support the idea for a central distribution of funds. This is nothing other than just transferring the competencies to the state level, where the funds will be distributed even more inefficiently.

The foundation of every strategy for creating new jobs must be proprietor-individual, who has a developed idea about the product. This is an alternative to unemployment regarding sectors that have been written off.

3.2 The Minister of Technology on Inheritance Mines

Slovenian science and its influence on the competitiveness of companies, has decreased by four or more places on international lists after the departure of the former government, which is a somewhat poor inheritance for the new Minister of Science and Technology. The government only invested in well-established research spheres and not in the economy. Investments into the economy had decreased from 9% to 5%, which is in contrast to the operations of EU governments that have been incorporating innovations into the economy more and more, which is the foundation of the Lisbon strategy.

This is why reforms on developmental policies are necessary. Measures must be taken in two areas (Kos, Finance no. 33/05):

First of all, financing must originate from research and development projects. Program financing is abolished. State intuitions have battled for “program financing”, which does not demand the selection of project topics regarding innovation and that is why the orders in the economy have been cut. State institutions can do whatever they like, which is very irresponsible of the government and at the same time it does not bring any progress to the innovativeness of Slovenia.

Secondly, there is restructuring. The percentage of institutes, which are only mainly research-oriented, should fall under universities and the other part should be in the ownership of companies as industry institutes. This is how we shall develop strong universities, which would otherwise weaken and also a strong science economy with research capable of progress in innovation.

3.3 Decreased Competitiveness in the Slovenian Economy

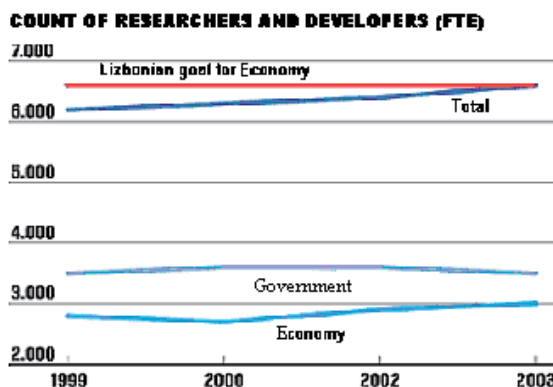
Graduates of post-graduate and graduate studies will not achieve the Lisbon strategy, only the engineers of technical natural sciences will. Our planners (for achieving the Lisbon strategy) are still far from reality. Great numbers of sociologists, humanists and people in the legal profession cannot at the least influence product innovation of, exporting and GDP. Innovations are the fruit of talented engineers that work in companies, even though there are many who only have a BA or a secondary technical school diploma. Researchers in the government sector have not yet developed and manufactured no new product (Kos, Finance, no. 175/04).

Unfortunately, only 27% of all 23.691 engineering graduates work in industry, others are in the service sector (24%), public administration (10%) and in education, where innovation is lost.

As a result, we are a country lagging behind in innovation. As a result of no aid from the government and thousands of companies not investing a single tolar in innovation

low-quality exports, no new jobs and a social crisis has resulted.

Even a quick glance of the graph (Graph 1) shows us that it is impossible to reach 2% of GDP for achieving the Lisbon strategy through a natural process, without radical measures taken by the state, which will at least triple the flow of engineers and kick-start innovation. However, we are not capable of doing this because there is a blockade of lobbies that have special interests.



Graph 1: *Number of researchers and developers (Source: Kos, Finance, no. 175/04)*

4 WHERE IS THE KNOWLEDGE – IN COMPANIES, UNIVERSITIES OR INSTITUTES?

4.1 Young Researchers

One of the instruments for the scientific policy of research agencies is financing post-graduate studies and research training for young researchers. The program has been successfully operating since 1985 and has additionally contributed to the increase in the amount of research and adding young minds to research groups. As a result of the program's success, a large part of the agency's budget funds are intended for human resource training. Until now, 5347 young researchers have been part of the program.

Characteristics of the young researchers program (<http://www.arrs.gov.si/sl/mr/obseg.asp>):

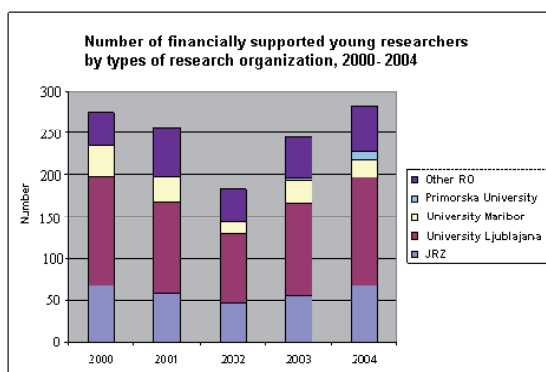
- During their post-graduate studies young researchers do research on fundamental or research-development application projects,
- They have a fixed employment contract,
- The ministry ensures funds for their salaries, contributions, material and non-material expenses for their research work and post-graduate studies.

Scholarships for training young researchers are given for a certain period of time, which includes four years and six months at most for a PhD. On average, 6.6 million tolar is needed to finance a young researcher yearly.

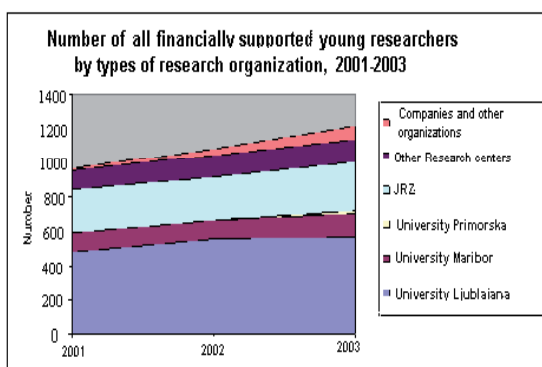
The size and structure for financing

Every year, the agency finances about 1200 young researchers, which represents about the equivalent of 850 to 900 fully paid young researchers. Every year, 200 to 250 young researchers complete the training program, which is the same amount that is financed once again.

Graph 2: The number of newly accepted young researchers according to the type of research organization (Source: <http://www.arrs.gov.si/sl/mr/obseg.asp>)



Graph 3: Number of newly accepted young researchers according to the disciplines (Source: <http://www.arrs.gov.si/sl/mr/obseg.asp>)

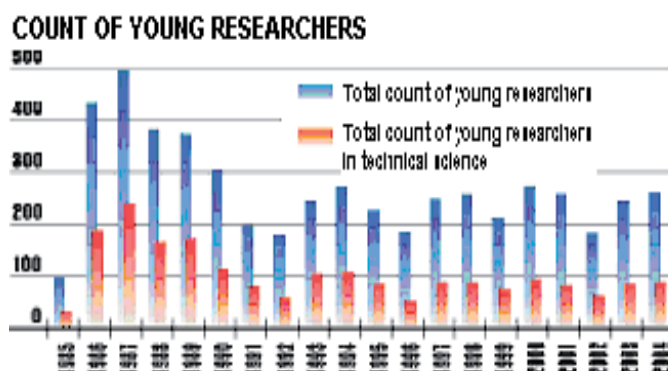


Graph 4: Total number of financially supported young researchers according to the type of research organization (Source: <http://www.arrs.gov.si/sl/mr/obseg.asp>).

4.2 The Number of Young Researchers and ZTP Direction

After constant analyses of Slovenian science, its reflection in companies, development and influence of high technology sometimes bear negative thoughts and energy by researchers who participate with companies. As a result of these analyses a doubt arises in researchers in the area of technical sciences in that they are being constantly dealt with as the only ones, to whom the fault can be attributed to in Slovenia for the slow (too slow) development of the nation. That is to say that the problem in Slovenian science is exclusively in the area of technical science and that the problems in the lack of competitiveness industry are exclusively because of engineers. (Duhovnik, Finance, št. 226/04).

This had been established in 2004 at the business conference in Portorož, which is organized by the daily Finance. There were discussion on innovation processes with domestic and foreign consultants and some new ones, who had made contributions about how to teach Slovenian development engineers so that they could understand the new technology. This transfer of knowledge should be made by those who manage business systems. Members of management boards for development in multinationals or of famous consulting companies also had lectures. There was also special emphasis put on investing in science. It is difficult to understand that within such an elite group of speakers, a domestic scientist in the technical field is not allowed to (or better yet it would not be suitable to) make a commentary. (Duhovnik, Finance, št. 226/04). Even more so, if they are employed at any institute or technical faculty and do not deal with “management” but does research and development, even having patents in certain areas.



Graph 5: Number of young researchers in technical science (Source: Duhovnik, Finance no. 226/04)

Therefore, if we take a look at the programs for young researchers in the area of science, we can establish that we have six areas: natural-mathematical, technical, medical, biotechnical, social sciences and humanities. There could only be four areas with a rough division: natural-mathematical, technical, medical/biotechnical and social sciences with

humanities. Older researchers and responsible employees in companies are familiar with the infamous project 2000 MR, which had been introduced to the Slovenian public by Dr. Boris Frlec. It was accepted with enthusiasm and thus it was continued. One year it was a little better and in others it was not as successful. It is understandable that it cannot be totally successful. In comparison with the entire period it had a success rate of 75%. If we take a look at only the last few years or the years after 1990, we can see an exceptional success rate of 97%. First of all we can evaluate the success rate with a formally obtained academic title, with a doctorate in the last little while. An important fact is that in the last few years 420 to 500 candidates who have all the credentials have appeared and only 180 to 280 are rightfully selected. In some areas, the quality of the candidature of young researchers is so high that young researchers who only have an average mark of nine are cut. The prerequisite for each candidate is their average grade for the university program. This already shows the disproportion of grades in the programs that are only four years or those that are six. As a result an expert system has been implemented, however with a cut-off rate (50 %) of a limited number of accepted young researchers, which is almost a disgrace for evaluators who see a young researcher with exceptional potential in front of their eyes. (Duhovnik, Finance, št. 226/04).

4.3 The Project of Young Researchers and Domestic Consultants

Let us take a look at how they decided on making an investment in the project for young researchers from 1985 onwards. If we imagine that as a rule young researchers in companies are not going to introduce high technology but are going to design a product, which is going to use the functions of high technology then we can probably expect them to be from the area of technical science. From the diagram, we can clearly see the relation between young researchers in the area of technical science and the total number of accepted young researchers. That is why it would be proper that the investment analysts for science understand investment in science at all level, which the state must harbour or it is already defined in their development strategy.

From 1997 onwards, a levelling of wages in the placing of funds has been used for the different sciences. This means that a development strategy for a certain science had not been even used. Even what is more alarming is that nothing has changed amongst young talented engineers in Slovenia. There has been no change in the growth of talents. Impossible! It can be achieved with the use of hard policies!

In the upcoming years we will have to increase GDP intensely. That is why above all other things it will be very important, how the knowledge of young researchers will be directly used. What will be the answer from the Slovenian business world? Will anyone conjure to say that our young researchers are incapable, in light of the data on average grades? The question arises: Have we opened the doors for employment for these exclusive young researchers? Or will they rather return to projects using high technology

for the manufacturing of products as R&D engineers in multinational corporations? I doubt that foreign lecturers are going to be able to respond in a strategic way to such a question at Slovenian business conferences. I shall be especially satisfied (Duhovnik, Finance, št. 226/04), if they could respond to one more important question: Can a modern state without its own products, which means industrial ownership collect enough money from taxes and contributions that it could cover all the costs pertaining to the public administration, a normal pension fund and finally a good healthcare system? For future business conferences it is important to invite domestic experts of acclamation, who also know how to take on the responsibility of technological development in Slovenian companies. Therefore, domestic lectures need to be invited to these conferences. Only these people would be able to explain what exactly could be done regarding the situation of industrial ownership in Slovenia.

5 CONCLUSION

The Lisbon strategy incorporates the right goals and clear mechanisms, although the critical points are instruments and coordination for achieving these goals. Representatives of the European Commission in Slovenia on the Lisbon strategy stated that the newcomers have been especially successful.

The Lisbon strategy gives us the answers to the question how the EU can be competitive in the long run and at the same time preserve the European model of life with a balance in economical, social and environmental goals. The first condition for the maintenance of social sustainability and kindness towards an environment is economical growth.

One of the important instruments for its realization is also the EU's budget in which the "Lisbon" and "cohesive" funds are available. There is a catch that exists in that the first part of the funds are going to be distributed according to excellence, which for the most part means ending up in the developed members and the rest for lesser developed states. At this point, smaller EU member states emphasize the need for the restructuring of the European budget. Evidently, there are still three problems regarding expenditures for R&D (Černetič, 2003, 16):

- Lack of vision or consensus in development
- The creation of a list of priorities, which should be able to strengthen the gathering of funds for R&D
- How to create an environment of innovation intended for most small and medium-sized companies with the measures and instruments of current economic policies.

In realizing the Lisbon strategy, each country must also take into consideration specific national objectives and the main problem of the strategy is in its weak management and co-ordination between the EU and member states. All foundations for the documents

have been implemented and now it is important to better comprehend the meaning of partnership in the realization of the Lisbon strategy.

BIBLIOGRAPHY:

A Science and Technology Strategy for Slovenia, GOPA, MZT, Ljubljana 1994.

Černetič M: *Ekonomika izobraževanja in raziskovanja*, Moderne organizacija, Kranj 1999.

Černetič M: Sociological and economic point of view on globalization and development,

Adult Education – A Key to the 21. Century, Proceedings of the International Conference, Hrvatsko andrargoško društvo, Zagreb 2004.

Černetič M: *Knowledge and Education – Management of Development*, Informatologija no.2, Zagreb 2003.

Černetič M. *Razvoj človeških virov –primer podiplomskega študija(PŠ) v Sloveniji*, Organizacija št. 7, Kranj, 1998.

Černetič, M. *Vlaganje v razvoj in modeli univerz*. Organizacija št. 10, Kranj, 2002.

Černetič, M. *Znanje in informacijska družba*. Organizacija, št. 8, Kranj, 2002.

Černetič, M. *Management ekonomike izobraževanja*. Moderna organizacija. Kranj. 2006.

Duhovnik J: *Znanost v podjetjih - ali kje sploh je?* Finance št. 226, Ljubljana, 18. 11. 2004.

Kos M: *Birokracija ne more usmerjati razvoja*. Finance št.33.Ljubljana, 16.02 2005.

Kos M: *Minister za znanost na minah dediščine*. Finance št. 256, Ljubljana, 1.12. 2004.

Kos M: *Neznosna lahkotnost planiranja*. Finance št. 175, Ljubljana, 07. 09. 2004.

Pezdir, R. *Karikature ekonomskega totalitarizma*. Finance št.43, Ljubljana, 02.03. 2005.

Sočan L., Bučar M: *Družbeno okolje za razvojno dohitevanje Slovenije in srednjeevropskih in baltičkih držav*, Poročilo raziskave: simulacija trajnostnega razvoja 1 in 2 ,FDV Ljubljana 2001 in 2003.

Stanovnik, P: *Nujnost prehoda v družbo znanja s krepitvijo slovenskega raziskovalno-razvojnega sistema*. Posvet DOF v DS, 27.01.2004, Ljubljana, 2004.

<http://www.arrs.gov.si/sl/mr/obseg.asp>.

MANAGERIAL PROFILES AND CAREERS

Pavlo Ružić, Ph.D., Institute for Agriculture and Tourism Poreč

Dragoljub Amidžić, Ph.D., Higher School of Business Višnjani

Ivan Ružić, dipl. ing. of Polytechnic Poreč

ABSTRACT

This paper investigates the correlation between managerial careers and managerial profiles. Research is based on the results of surveys conducted among final year students of Higher Schools of Business (HSB). Two parallel surveys were carried out, one with questions pertaining to building careers, and the other with questions for determining managerial profiles. A representative sample (250 respondents) was surveyed in two locations. The study confirms the hypothesis claiming that managerial careers and profiles are closely linked and that one conditions the other.

Keywords: career, managerial profile, survey, correlation, sample, hypothesis.

1. INTRODUCTION

The speed at which changes are taking place in companies and their environments is making it necessary to seek new business and organisational solutions. Changes within a company are caused by great advancements in, and impact from, its internal factors. The development of these factors is evident in the automatisisation of production and information processes, the structure of employees, new interpersonal relations, the democratisation of management, and so on. Wide-sweeping changes are also coming from the environment to which the company relates and in which it creates its products and services and acquires the input it needs. The environment imposes social and environmental values, which the company must accept and respect.

To respond to these challenges, that is, to adjust to changes that are happening within a company, as well as in its environment, the company must find the right business and organisational solutions. One way of anticipating day-to-day changes takes the form of adjustments to management through managerial profiles and careers. In this context, a study has been conducted and the results presented in this paper. The data from a survey¹ involving 250 students is used to test the hypothesis set forth. In formulating and

¹ Ružić, Pavlo: Survey in establishing managerial preferences and profiles
Study on tendencies in building specific managerial careers

presenting results and conclusions, scientific methods common to the field of economic and organisational research have been applied.

2. THE APPROACH TO DETERMINING MANAGERIAL CAREERS AND PROFILES

New trends in management and in business careers are emerging as a result of changes to the internal and external relations of organisations. The proficiency, self-assurance and expectations of company employees are continuously growing. This means that today's managers are working with employees who are highly critical, expect to be consulted, want to exercise influence, and who are frequently on the verge of breaking their loyalty with the company. Managers are confronted with a turbulent and unpredictable environment. In response to this social pressure, which is mounting both within the company and in its environment, new concepts and new trends of management have evolved.

These new management trends are the result of new business and organisational situations within the company. Profound changes are happening in the company to the role of human resources, knowledge, creativity, and above all loyalty to the organisation. Entrepreneurial behaviour in all employees is becoming crucial to a company's successful performance and development.

With the development of technology, that is, the rise of cutting-edge and highly sophisticated technologies, business performance is dependent upon people, in particular, upon highly qualified, competent and committed professionals.

Increasingly, business performance depends upon product and service quality, continuous innovations, and high flexibility. More and more today, managers are relying on their skilled co-workers. Managers are the ones who coordinate and guide the decision process by bringing together the right people around the right problems. For a management to be successful, Schein² claims that crucial importance lies in the skills and capability of managers to:

1. Recruit and coach (train) employees,
2. Create and lead all types of group meetings,
3. Handle all kinds of conflicts between strong individuals and groups,
4. Exercise influence and to negotiate on an equal basis,
5. Integrate the efforts of individuals possessing diverse technical specialisations.

The changing and turbulent environment of business today calls for managers to think and act as entrepreneurs. Mescon, Alber, and Khedouri stress that the entrepreneurial manager "is actively looking for possibilities and opportunities, and taking calculated risks in pioneering changes and improvements".³

² Schein, E. H.: Increasing Organizational Effectiveness through Better Human Resource Planning and Development in; DuBose P.H. (ed), Readings in Management, Englewood Cliffs, N.J. (Prentice Hall), 1988., p. 130-140.

³ Mescon, M.H., M. Albert, F. Khedouri: Management: Individual and organizational effectiveness, (2nd ed), New York, (Harper and Row) 1985. p. 25.

Leadership styles are also useful in defining managerial types. Vardman defines leadership style as “the manner in which managers perform, their *modus operandi*”.⁴ Bahtijarević-Šiber *et al.*⁵ focus on the best known and comprehensive analytical models of leadership style such as Likert’s leadership model and Blake and Mouton’s managerial grid.

The typology presented in the following section is based on the criteria of the above-mentioned management concepts, trends and styles used in typing managers. With regard to management styles, managers can be typed into four categories. They are the:

- Authoritative manager (autocrat)
- Paternalistic manager (democrat)
- Consultative manager (consultant)
- Participative manager (collaborator)

Numerous criteria can be applied in classifying managers according to the above categories. These are:

1. The types of motivations managers apply in the workplace (economic, social, miscellaneous),
2. Motivation factors used in the workplace (fear, threats, punishment, rewards, involvement),
3. Attitudes towards the organisation and its objectives (hostile, conflicting, positive),
4. Responsibility for achieving the organisation’s objectives (at the top, middle level, general),
5. Attitudes towards communication and information flows (top-down, with distrust, very little),
6. According to interactions and influences (teamwork and cooperation, seeking new ideas, the amount of influence subordinates exercise),
7. According to participation in decision-making (level at which decisions are made, involvement of employees in the decision process, decentralisation of decision-making, adequacy of information available for decision-making),
8. According to resistance to established goals (how goals are established, levels at which goals are established, level of resistance, analysis of goals and accomplishments),
9. According to the level of interest in control (concentration of control, informal resistance to formal organisation, purpose of data).

The best type of manager is the participative manager whose work is based on high goals and demands which serve to move individuals to action, develop their capabilities, foster group action in decision-making, and decentralise the decision process to those levels that have the best skills and greatest interest in making the right decisions. According to the attributes presented in the following table, managers can also be classified as old-style and new-style managers.

⁴ Vardman, T.: *Dynamics of Managerial Leadership*, Philadelphia, (Auerbach), 1973. p. 35.

⁵ Bahtijarević-Šiber, F. i suradnici: *Organizacijska teorija*, Informator, Zagreb, 1991. p. 240.

Table 1. Criteria for classifying old-style and new-style managers

Old-style manager	New-style manager
<ul style="list-style-type: none"> - 10 people answering to the executive - Assigns work - Enforces rules - Does a lot of planning - Focuses “downward” (or “upward”) in the structure - Communicates the needs of middle (higher) management downward - Provides new ideas for workers 	<ul style="list-style-type: none"> - 50-75 direct reports - Coaches, and listens to the ideas of the leaders/coordinators of self-managing teams - Facilitates work, by providing professional help to teams when required - Lets things drift - Horizontally focused, engages in other functions to spur action - “Sells” the ideas/needs of teams “upward” - Helps workers/teams to develop their own ideas, provides ideas to improve cross-functional systems

Source: Adapted from Bahtijarević-Šiber F. *et al.*: Organizacijska teorija, Informator, Zagreb, 1991, p.257.

As illustrated in Table 2, the role of the manager is shifting from a focus on planning, decision-making, controlling and other conventional forms of action to a situation where the manager must be the one who will eliminate barriers and facilitate work, and become an on-call expert, a bearer of good tidings, in general, a transmitter and distributor of information. The overall commitment of management must focus on motivating employees, enhancing their loyalty to the company and its goals, ensuring their continuous educations, and removing obstacles to creativity and enabling the job to get done quickly and successfully.

The rapidly changing and turbulent environment calls for managers to think and act as entrepreneurs. The need for entrepreneurial behaviour and a modern style of management does not pertain only to top management, but to the other managerial levels as well. We can distinguish between the entrepreneurial manager and the manager as administrator-bureaucrat according to the criteria outlined in the below table.

Table 2. Criteria for classifying entrepreneurial managers and administrative-bureaucratic managers

<i>Entrepreneurial manager</i>	<i>Administrator - bureaucrat</i>
<p><i>I. Active relationship with the environment</i></p> <ol style="list-style-type: none"> Looks for and takes advantage of the opportunities and possibilities the environment provides Creates the preconditions needed for new business and success Creates, combines and changes resources Makes the most of all external resources (information, ideas, capital) Sees uncertainty and change as an opportunity for new achievements and new creations <p><i>II. Commitment to development and the future</i></p> <ol style="list-style-type: none"> Focuses on the future and a long-term outlook Sees the organisation and business in the “big picture” Champions changes Focuses on innovations and how to commercialise them quickly Anticipates future events and trends – creates the future <p><i>III. Personal traits</i></p> <ol style="list-style-type: none"> Uses intuition Characterised by strategic thinking and commitment Dynamic Accepts and tolerates risks (but keeps them under control) Motivated by achievements and success Dedicated to objectives and action Result-oriented (does not care how results are obtained) 	<p><i>and the opportunities it provides</i></p> <p>Focuses on problem-solving</p> <p>Makes use of former achievements and glory (resting on old laurels)</p> <p>Makes optimum use of existing resources</p> <p>Focuses exclusively on internal resources</p> <p>Sees uncertainty and change as a threat and inconvenience (prefers predictability and stability)</p> <p>Focuses on the present and the past</p> <p>Deals with individual current problems in business and is occupied with the short-term outlook</p> <p>Optimises the current situations</p> <p>Focuses on rules and on how efficiently existing tasks are carried out</p> <p>Sees the future as an extrapolation of the past and the present</p> <p>Uses only data and budgets</p> <p>Characterised by the precise planning of future activities</p> <p>Inert</p> <p>Avoids risks and prefers certainty</p> <p>Motivated by support and certainty</p> <p>Dedicated to carrying out procedures and policies</p> <p>Focuses on processes and how to control them</p>

<i>Entrepreneurial manager</i>	<i>Administrator - bureaucrat</i>
<p>IV. Social relations – how interactions take place</p> <ol style="list-style-type: none"> 1. Prefers and chooses skilled and talented co-workers 2. Creates direct, intense and informal communication 3. Rewards ideas, knowledge, teamwork 4. Encourages confrontations and differences of opinion – successfully handles conflicts 5. Carefully listens to co-workers and constantly seeks their opinions and ideas 	<p>Prefers mediocrity and subjection in co-workers (to protect his/her position)</p> <p>Prefers formal communication (to protect the authority the position provides, not the authority earned)</p> <p>Rewards tasks properly carried out, quantity and function</p> <p>Wants conformity and avoids conflicts (fears conflicts, because they carry the risk of uncertainty and personal failure)</p> <p>Issues orders and is not open to discussions (which can call into question his/her competence and authority)</p>

Source: Adapted from Bahtijarević-Šiber F. et al.: *Organizacijska teorija, Informator, Zagreb, 1991, p.260-261.*

Entrepreneurial managers should have a proactive rapport with their environment. They should focus on development and the future, and develop a special personal and outgoing social rapport in interactions with co-workers.

With regard to the criteria presented above, eight managerial types can be established. According to the criteria of managerial systems, we can distinguish between four types of managers: the autocratic, democratic, consultative, and participative manager. According to managerial trends, managers can be classified in four more groups: the old-style manager, the new-style manager, the entrepreneurial manager and the administrative-bureaucratic manager.

The managerial profiles listed above can be linked to specific types of careers and career-building activities. These are:

1. The playing-it-safe career, in which managers seek steady and secure employment, such as within a government office;
2. The career in which managers seek to work independently as tax consultants, stock exchange consultants, independent accountants, etc;
3. The career in which managers pursue independence by setting up their own

company;

4. The career level at which managers strive to build a system of their own in which they work and make money through the help of others;
5. The career level at which managers know how to get money and manage it so that it works for them;
6. The career level at which managers, aware of the necessity to invest, begin to plan and participate in investments;
7. The career level at which managers are aggressively involved in the most high-risk investments.
8. The career level at which managers are in charge of the money they are making and investing.

3. TESTING THE CORRELATION BETWEEN MANAGERIAL PROFILES AND CAREERS

A test was conducted among the students of HSB to establish the correlation between managerial profiles and careers. The test, based on the opinions of 250 students, has identified the following relations between career types and managerial profiles:

Table 3. *Links and relations between managerial careers and profiles*

Career type	% of responses	Rank	Managerial profile	% of responses	Rank
Playing-it-safe, pursues a steady and secure job in government office, or company	18.6	2	Autocrat	1.7	8
Pursues an independent job (tax consultant, broker, etc.)	6.1	7	Democrat	5.9	5
Pursues entrepreneurial work, sets up own business	16.9	3	Consultative manager	15.0	3
Strives to build own system in order to work with the help of others	13.8	4	Participative manager	27.1	2
Strives to gain money and make money work for him/her.	7.7	6	Old-style manager	2.8	7
Investment-minded, plans and takes part in investments	12.3	5	New-style manager	3.3	6
Aggressively takes part in high-risk investments.	1.5	8	Administrative-bureaucratic manager	12.1	4
In charge of the money he/she is making and investing into the business	23.1	1	Entrepreneur	32.1	1

Source: Compiled by the authors of the survey

The above data reflect the opinions of respondents regarding their personal careers and the managerial profiles to which they belong in response to questions regarding the criteria for eight managerial profiles and eight corresponding career types.

The data show that a high percentage of respondents have chosen the highest career level and the corresponding profile of manager-entrepreneur. A similar correlation is established for the consultative manager, the old-style and the new-style manager. Thus, this study confirms a strong link between managerial careers and profiles, and it supports the presented hypothesis claiming that “a correlation exists between managerial careers and profiles”.

4. CONCLUSION

Based on the criteria for classifying managerial profiles and corresponding careers, a system has been designed in this paper to test the correlation between managerial profiles and careers. The study conducted among HSB students has established managerial types and careers, and it has confirmed the prevalence of managers who focus considerably on human resource management and the company's strategic orientation. The respondents believe that, for managers to perform well, crucial importance lies in their skills and capability to coach employees, shape and lead all type of meeting, handle all type of conflicts between individuals and groups, exercise influence and negotiate on an equal basis, and integrate the efforts of individuals of diverse technical specialisations.

The students have also identified the role of the manager as shifting from a focus on planning, decision-making, auditing, and other conventional forms of action to a situation where the manager must be the one who will eliminate barriers, facilitate work and become an on-call expert, a bearer of good tidings, and, in general, a transmitter and disseminator of information.

To a considerable extent, the overall commitment of the manager should focus on motivating employees, enhancing their loyalty to the company and its goals, ensuring their continuous education, removing obstacles to creativity and enabling the job to get done quickly and successfully.

The changing and turbulent environment calls for managers to think and act as entrepreneurs. The necessity of entrepreneurial behaviour and action has been recognised not only in top management levels, but in the other managerial levels as well.

Only some of the 160 criteria have been listed according to which managers can be classified and a comparison drawn with their careers. The indicators presented confirm the hypothesis claiming that a correlation exists between managerial profiles and managerial carriers.

REFERENCES

1. Alfirević, N., Bahtijarević-Šiber, F., Bosilj Vukšić, V., Buble, M., Ćurko, K., Dulčić, Ž., Fabac, R., Franičević, V., Galetić, L., Jurčić, Lj., Kolaković, M., Marušić, M., Marušić, S., Omazić, M. A., Pavić, I., Pološki, N., Pulić, A., Rašić, S., Sadžak, M., Sikavica, P., Skoko, H., Tipurić, D., u redakciji Tipurić, D.: *Konkurentna sposobnost poduzeća*, Sinergija, Zagreb, 1999.
2. Bahtijarević-Šiber, F., Borović, S., Buble, M., Dujanić, M., Kapustić, S. u redakciji Kapustić, S.: *Organizacijska teorija*, Informator, Zagreb, 1991.
3. Bahtijarević-Šiber, F.: *Management ljudskih potencijala*, Golden marketing, Zagreb, 1999.
4. Mescon, M.H., M. Albert, F. Khedouri: *Management: Individual and organizational effectiveness*, (2nd Ed.), New York, (Harper and Row) 1985.
5. Ružić, Pavlo: *Strategija organizacijskog razvoja hotelskih trgovačkih društava Istre*, doktorska disertacija, Sveučilište u Rijeci, Ekonomski fakultet Rijeka, 2001.
6. Schein, E. H.: *Increasing Organizational Effectiveness through Better Human Resource Planning and Development* in DuBose P.H. (ed), *Readings in Management*, Englewood Cliffs, N.J. (Prentice Hall), 1988.
7. Sikavica, P., Skoko, H., Tipurić, D., Dalić, M., u redakciji Sikavica, P.: *Poslovno odlučivanje - teorija i praksa donošenja odluka*, Informator, Zagreb, 1994.
8. Sikavica, P., Novak, M.: *Poslovna organizacija*, Informator., Zagreb, 1999.
9. Srića, V.: *Principi modernog menadžmenta*, Zagrebačka poslovna škola, Zagreb, 1992.
10. Srića, V.: *Informatički inženjering i menadžment*, DRIP, Zagreb, 1990.
11. Srića, V.: *Upravljanje kreativnošću*, Školska knjiga, Zagreb, 1994.
12. Srića, V.: *Inventivni menadžer*, Croman MEP Consult, Zagreb, 1994.
13. Stacey, R., D.: *Strateški menadžment i organizacijska dinamika*, MATE, Zagreb, 1993.

14. Steinberg, J. R.: Uspješna inteligencija, BARKA, Zagreb, 1999.
15. Vardman, T.: Dynamics of Managerial Leadership, Philadelphia, (Auerbach), 1973.
16. Vugrinec - Hitrec, V.: Tajna poslovanja "Skrivenih šampiona", Informator, Zagreb, 1993.
17. Weihrich, H.- Koontz, H.: Menedžment, deseto izdanje, MATE, Zagreb, 1994.
18. Zekić, Z.: Menedžment suvremenog poduzeća, Glosa d.o.o., Rijeka, 1995.